CALIFORNIA INSTITUTE OF TECHNOLOGY

EARTHQUAKE ENGINEERING RESEARCH LABORATORY

ANALYSES OF
STRONG MOTION EARTHQUAKE ACCELEROGRAMS

VOLUME IV - FOURIER AMPLITUDE SPECTRA

PART E - ACCELEROGRAMS IIE071 THROUGH IIE085

EERL 73-103

A REPORT ON RESEARCH CONDUCTED UNDER A
GRANT FROM THE NATIONAL SCIENCE FOUNDATION

PASADENA, CALIFORNIA

October, 1973

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OF
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Volume IV - Fourier Amplitude Spectra

Part E - Accelerograms IIE071 through IIE085

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ABSTRACT

This is the fifth report of a series presenting Fourier amplitude spectra for earthquake ground motions and for structural response accelerations. Volume IV, Part A, Report No. EERL 72-100 included an introduction summarizing Fourier spectrum techniques in earthquake engineering as a background to the use of the data. For each earthquake accelerogram, two spectrum plots are given - a Fourier amplitude spectrum versus frequency on a linear scale, and a log-spectrum, log-frequency plot. In the series, Fourier amplitude spectra will be given for all corrected accelerograms, including building response measurements. The corrected records analyzed in this report, Volume IV, Part E, appeared in Volume II, Part E, Report No. EERL 73-50. Their uncorrected versions were published in Volume I, Part E, Report No. EERL 71-22.

TABLE OF CONTENTS

PREFACE

This report, Volume IV, Part E, Report No. EERL 73-103 is the fifth report of the Volume IV series presenting Fourier spectrum curves calculated from corrected strong-motion accelerograms including measurements in structures as well as at ground sites. An extensive introduction was prepared for Volume IV, Part A, Report No. EERL 72-100, where details of the methods used can be found together with examples of applications to various problems of earthquake engineering and strong-motion seismology. That introduction should also serve as a basic summary of background information for users of the data.

The series of reports in Volume I present "uncorrected" digitized and plotted strong-motion earthquake accelerograph data, while the series in Volume II present corrected digitized data prepared so that the maximum information over the widest practicable frequency range would be available. The corrections include high frequency smoothing, an instrument correction to account for the high frequency response characteristics of the accelerograph transducer, and long period filtering to ensure a uniform type of base-line adjustment.

The records included for Fourier spectrum analysis in this report, Volume IV, Part E, were presented in "uncorrected" form in Volume I, Part E, Report No. EERL 71-22 and in corrected form in Volume II, Part E, Report No. EERL 73-50. The response spectrum analysis for these records appeared in Volume III, Part E, Report No. EERL 73-83.

A thorough description of the component direction nomenclature for the records was given in Volume II, Part B, Report No. EERL 72-50.

Consistent with this, the component direction, where it appears in this report, refers to the direction of the transducer pendulum motion for the trace to be deflected "up" on the record when viewed in the normal way with time increasing from left to right. The direction of true ground acceleration is opposite to this pendulum motion direction. The spectral calculations in this Volume IV, however, are concerned with the amplitude spectrum only and the particular component sense is thus immaterial.

For each component in the following pages the Fourier amplitude spectrum is presented in two forms - a linear plot and a log-log plot. Details concerning identification are given at the top of each plot. The second line gives the name, date, and time of occurrence of the earthquake; the third line is comprised of two labels, the observation station and the component processed. The Roman numeral "IV" in the first identification label indicates that the results pertain to the fourth stage of data processing, i.e., Volume IV of Fourier spectra of accelerogram records already corrected for baseline adjustment and instrument response. The letter "E" following the Roman numerals implies that the processed record belongs to Part E of Volume II. The three digit number completing the first label is the Caltech Reference Number for the given earthquake record in Volume I, right-adjusted in a three-digit numerical field. The second label is a string of three numbers separated by periods; the first number gives the year in which the earthquake occurred; the second is the serial number of the record as it was received at the Caltech Earthquake Engineering Research Laboratory during that year; and the last number

indicates whether it was a main event or an aftershock (sequentially numbered, the main event starting from zero). On the linear spectrum plot, the data lying above the 95 percent confidence level may be considered relevant to that degree. The spectra have been plotted up to a frequency of 25 cyc/sec on linear and logarithmic scales, corresponding to the capabilities of the instrumentation and data processing methods used.

A reproduction of the corrected digitized version of the acceleration - time record corresponding to each spectrum plot appears in Volume II, Part E, Report No. EERL 73-50.

This report presents many spectra of accelerograms recorded simultaneously at different locations in the same building, for example, IVE072, IVE073, and IVE074, at 4680 Wilshire Boulevard, in the basement, 3rd and 6th floors. At present it is planned to calculate frequency transfer functions involving smoothing and calculating the ratio of two such spectra in supplementary reports.

The cooperative efforts of many people are essential in the preparation of a series of reports of this kind and we have been fortunate in the quality of staff that has carried out the various details with special care and attention. We should like to express our appreciation to Mr. James E. Justiss for his assistance with many details of computer programming, to Miss Barbara Turner for the care taken over typing and editing, to the staff of the Willis H. Booth Computing Center for their continued help with all aspects of the computing process, and to the staff of the Caltech Graphic Arts Facilities for very efficient work on publication details. The whole project has been made possible by the

continued support of the National Science Foundation, supplemented in an important way by contributions from the Earthquake Research Affiliates program of the California Institute of Technology.

M. D. Trifunac
A. G. Brady
D. E. Hudson
Earthquake Engineering Research Laboratory
California Institute of Technology

INDEX OF EARTHQUAKE RECORDS IN VOLUME IV, PART E

EARTHQUAKE DATA

The San Fernando, California, Earthquake of February 9, 1971, 0600 PST; epicenter, 34°24.0′N, 118°23.7′W; maximum intensity, XI; magnitude, (M_L), 6.6; depth, 13.0 km.

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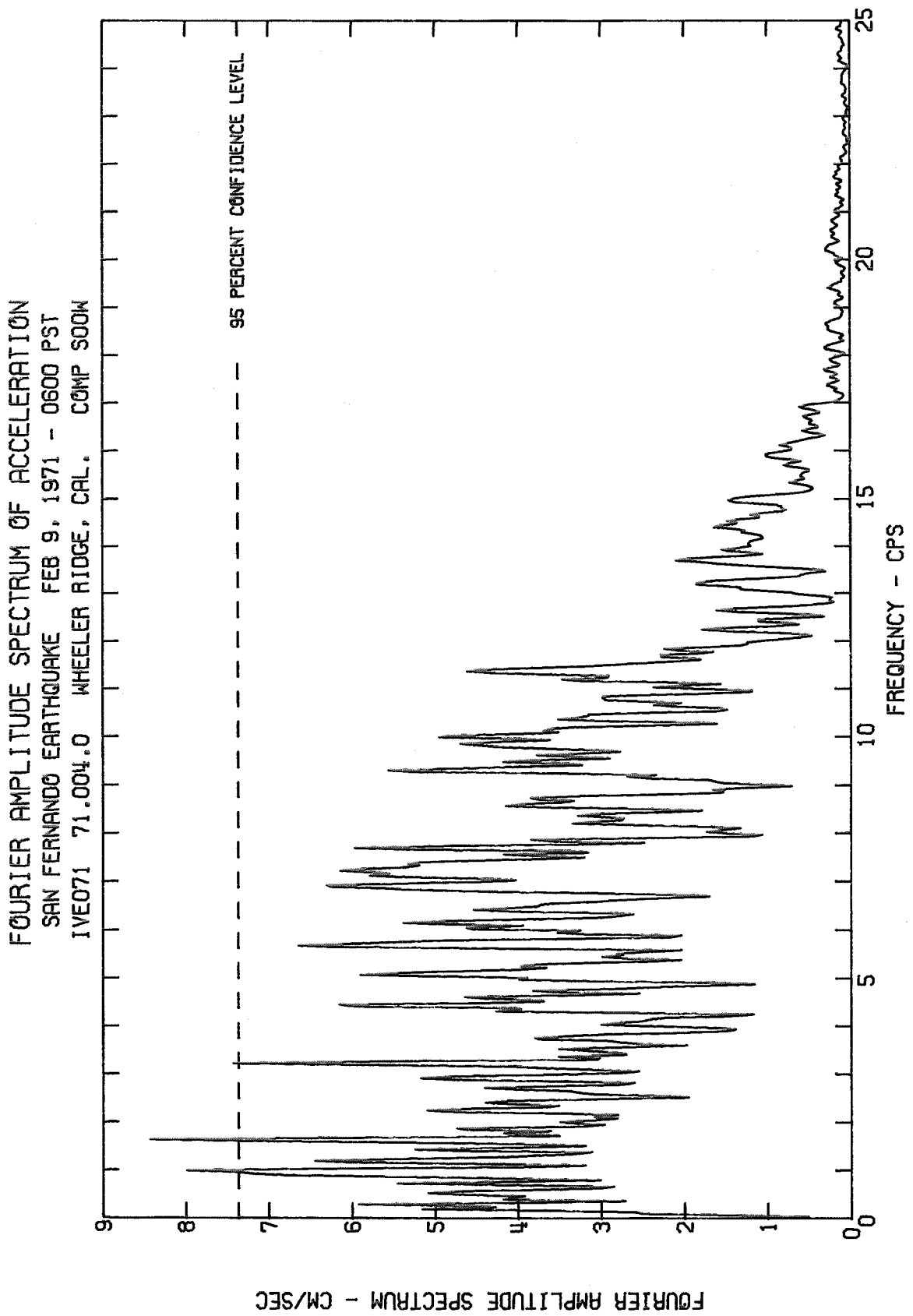
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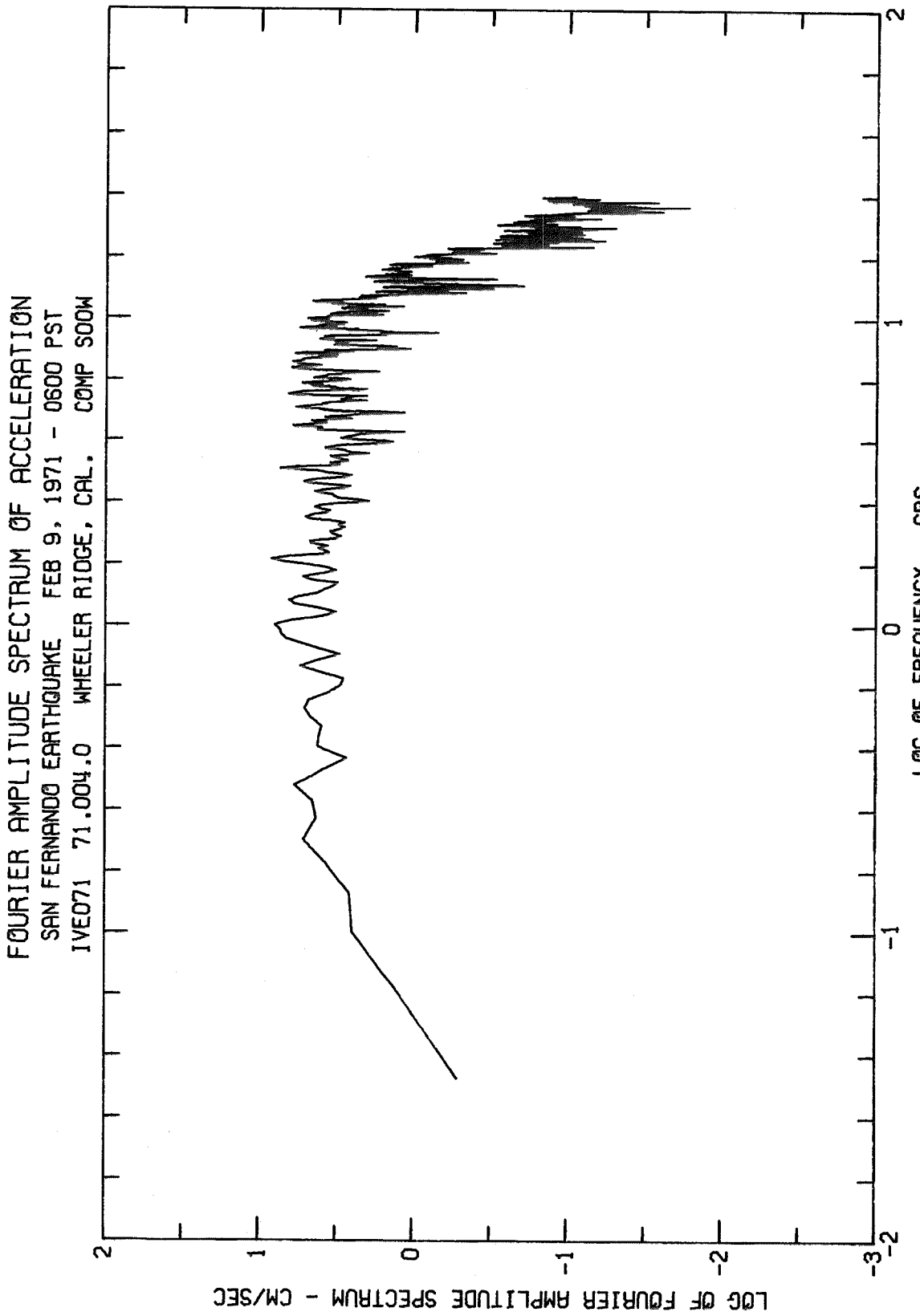
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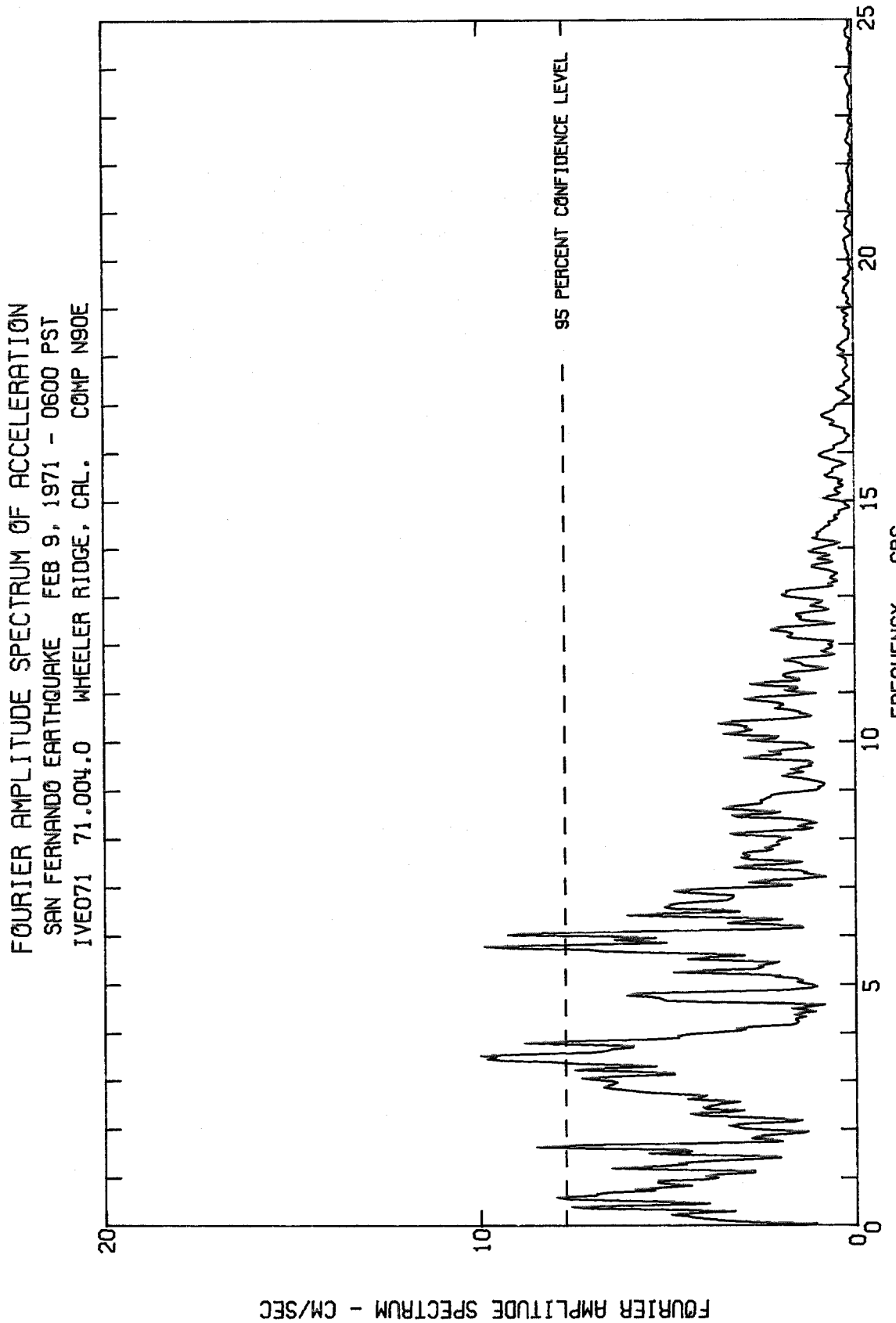
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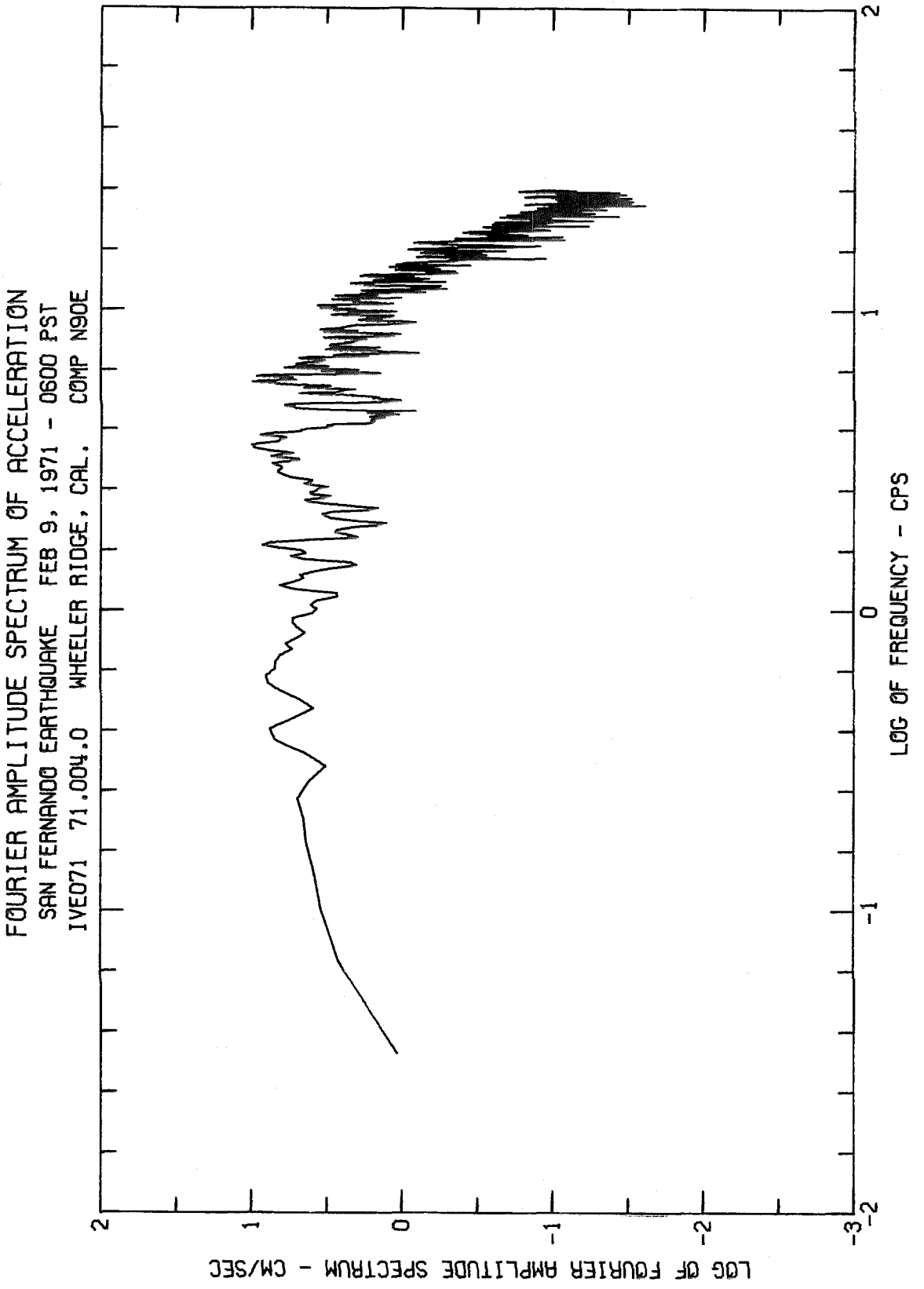
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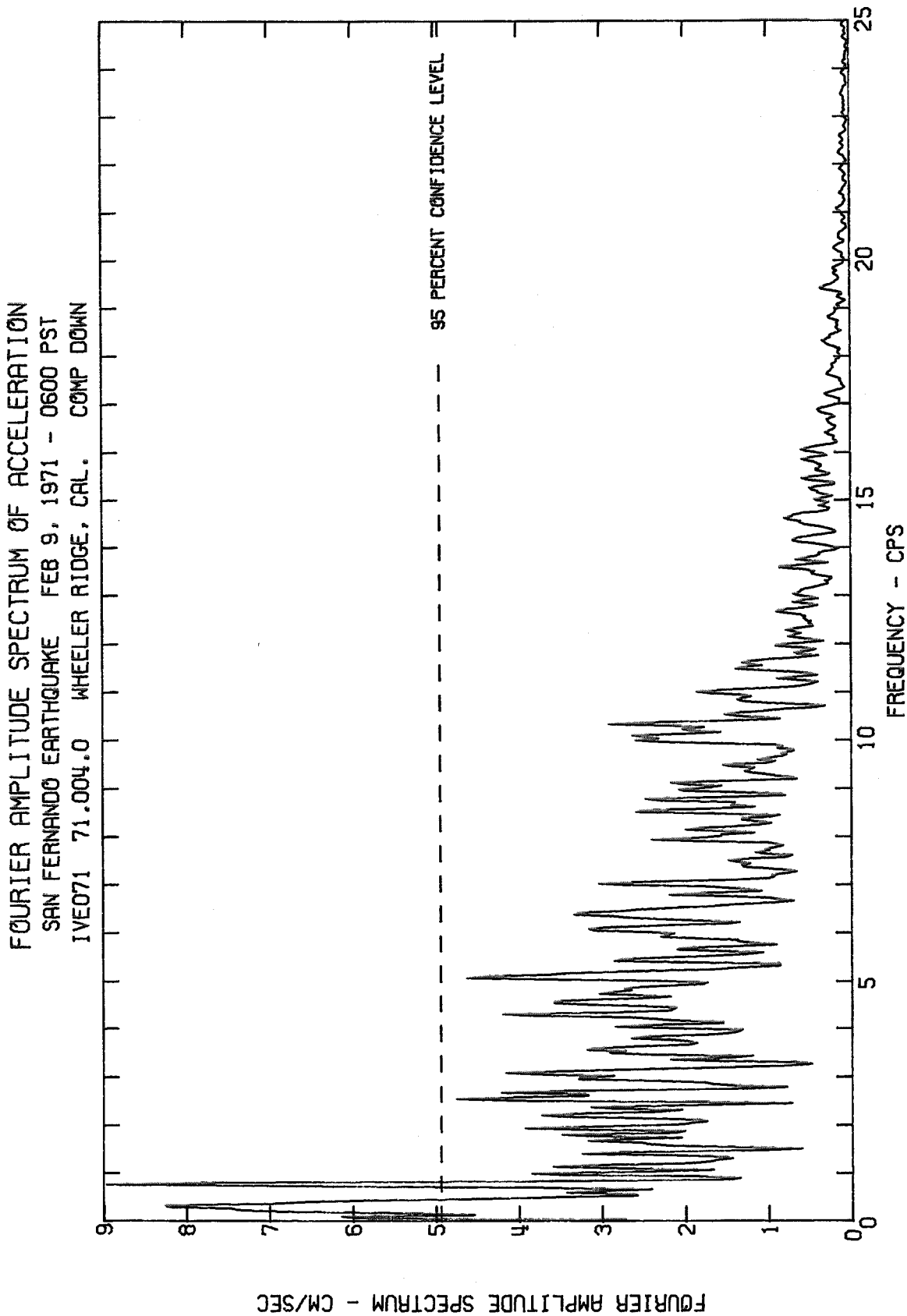
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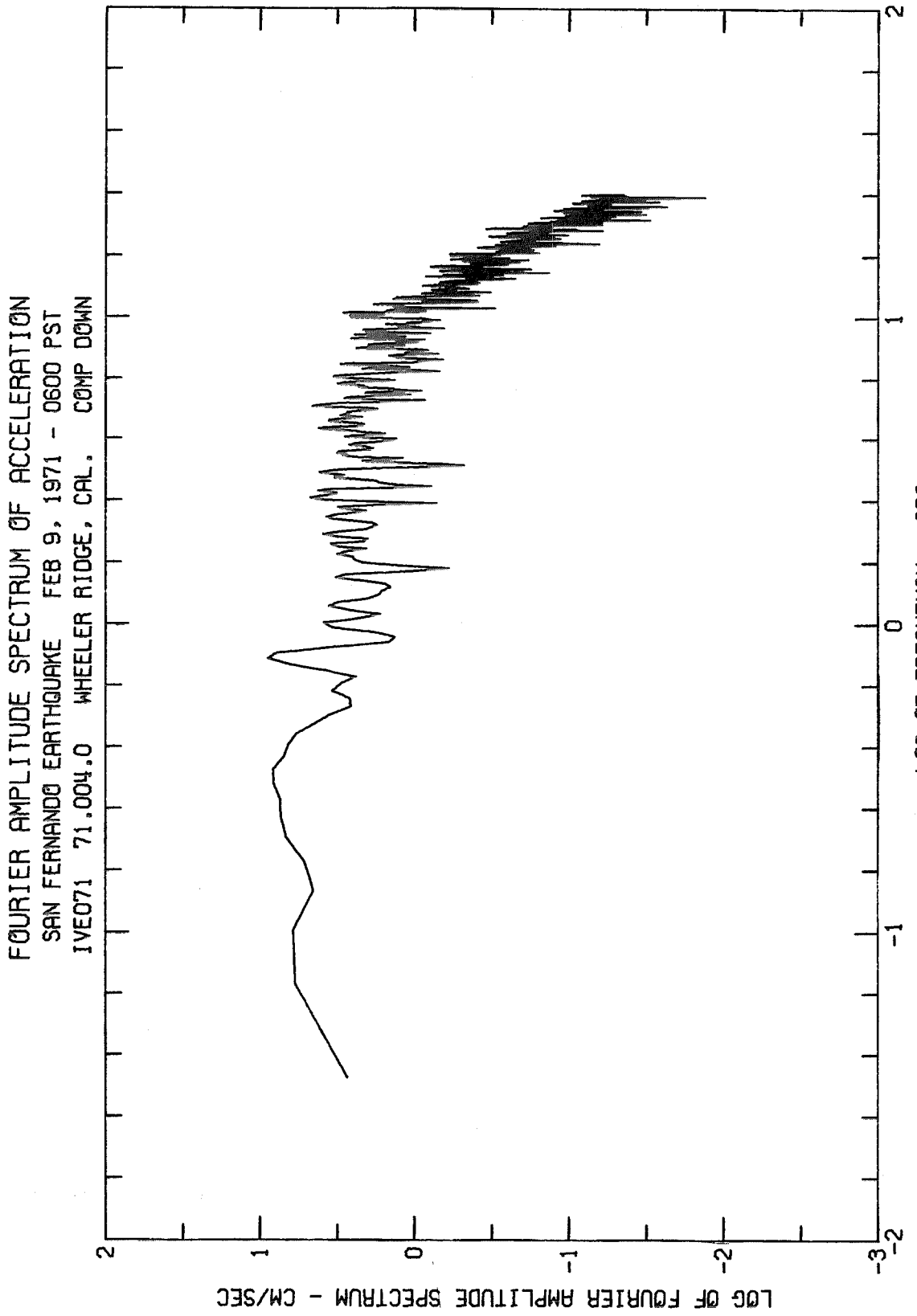
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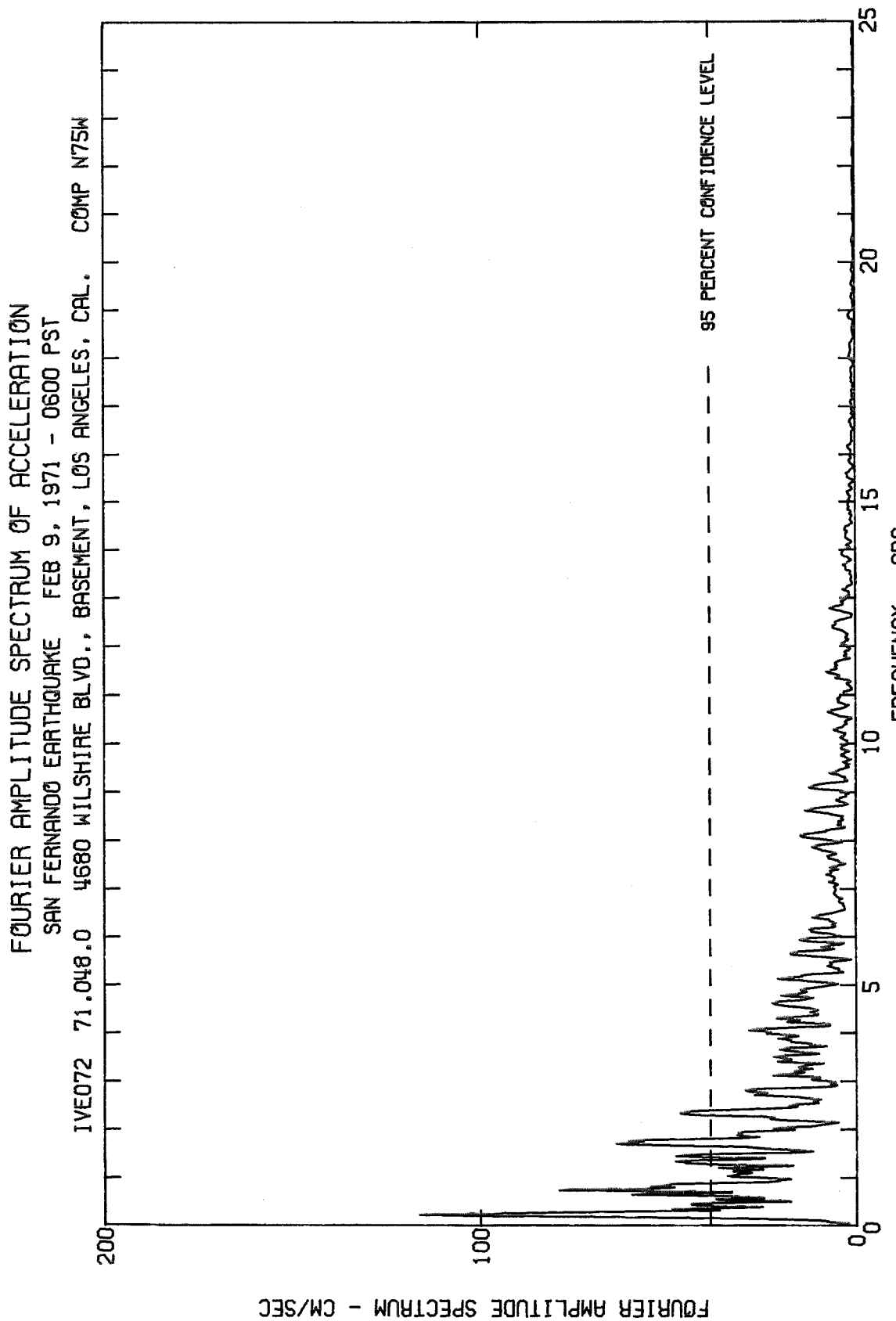
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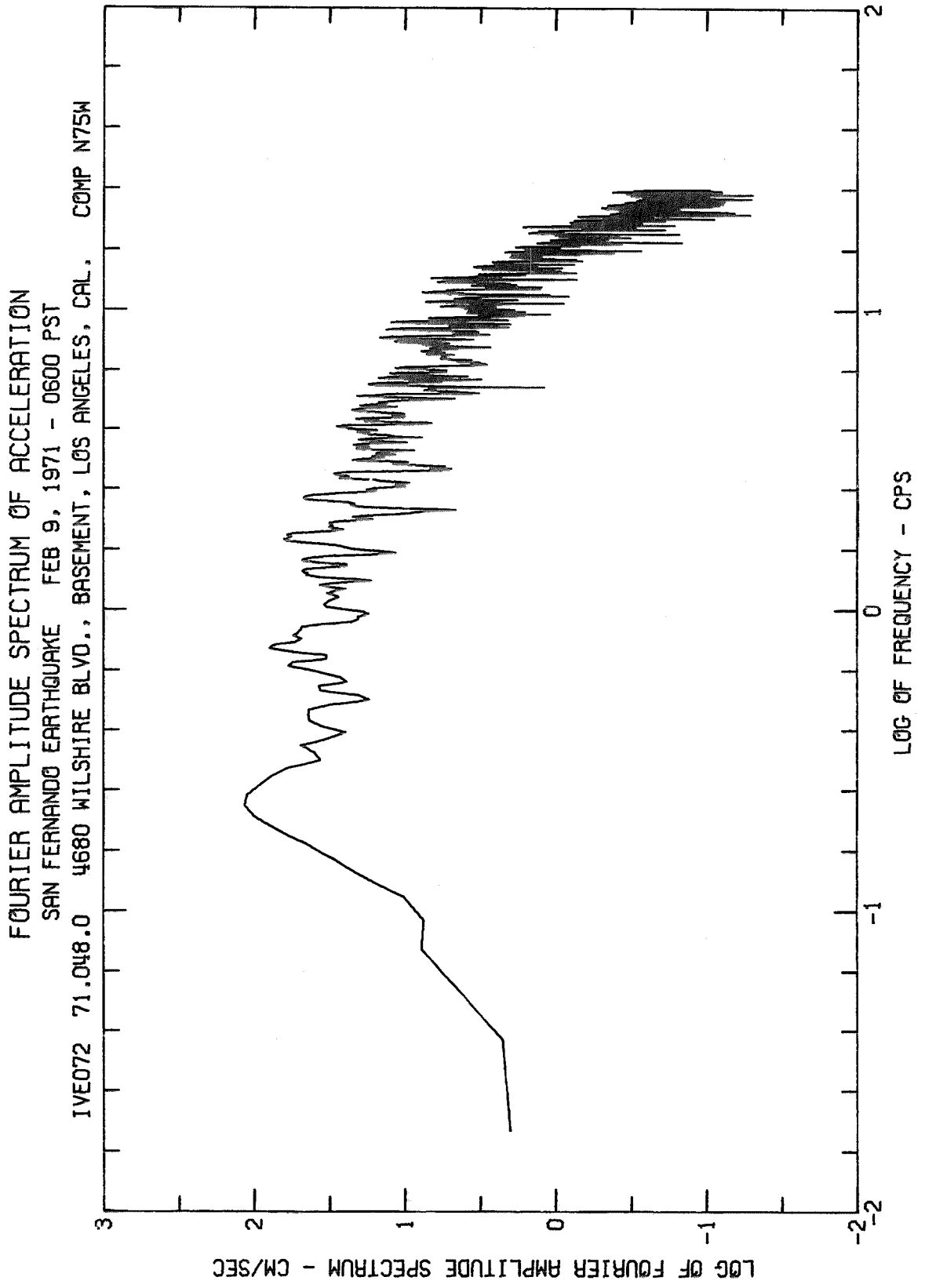
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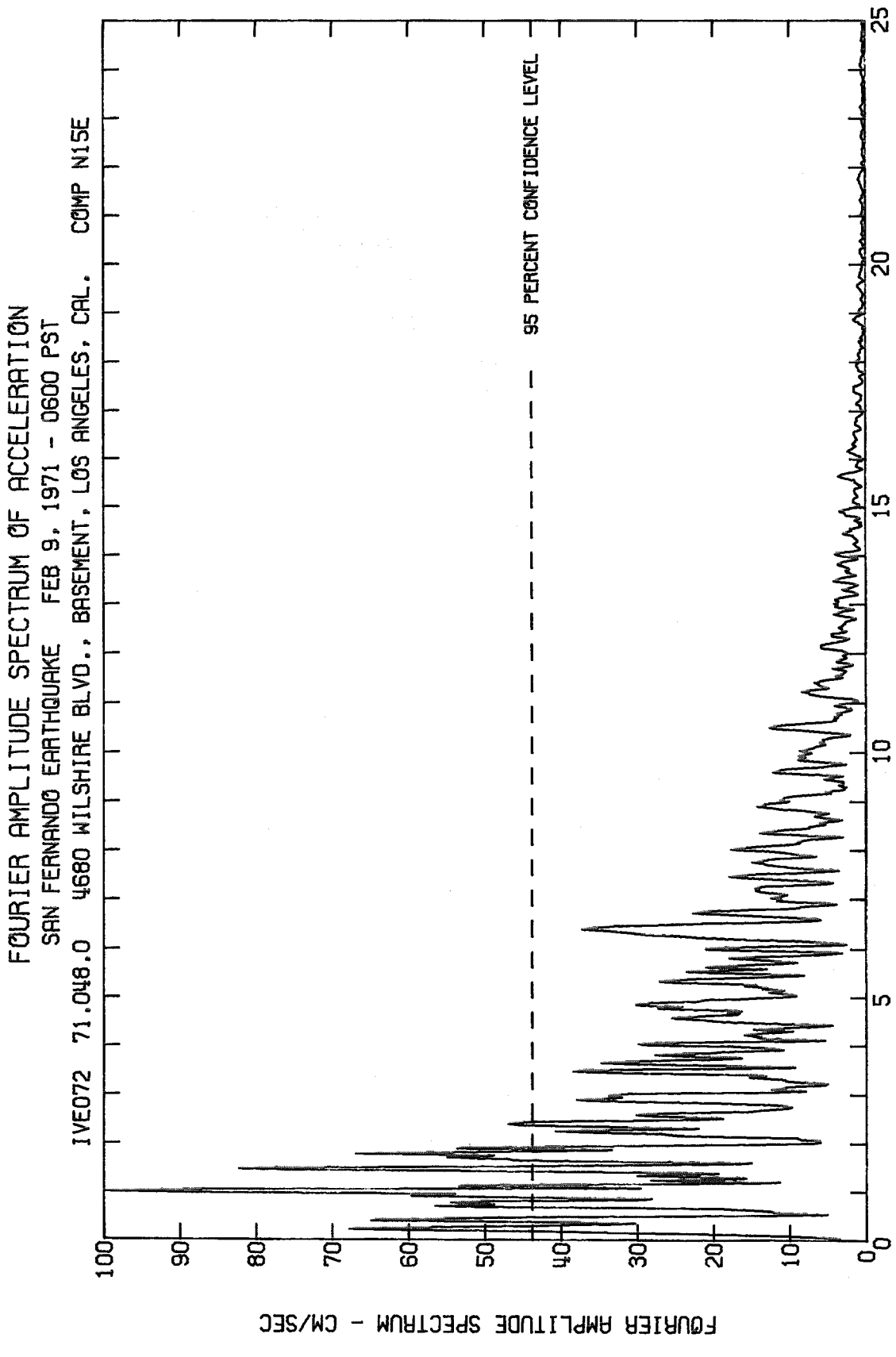
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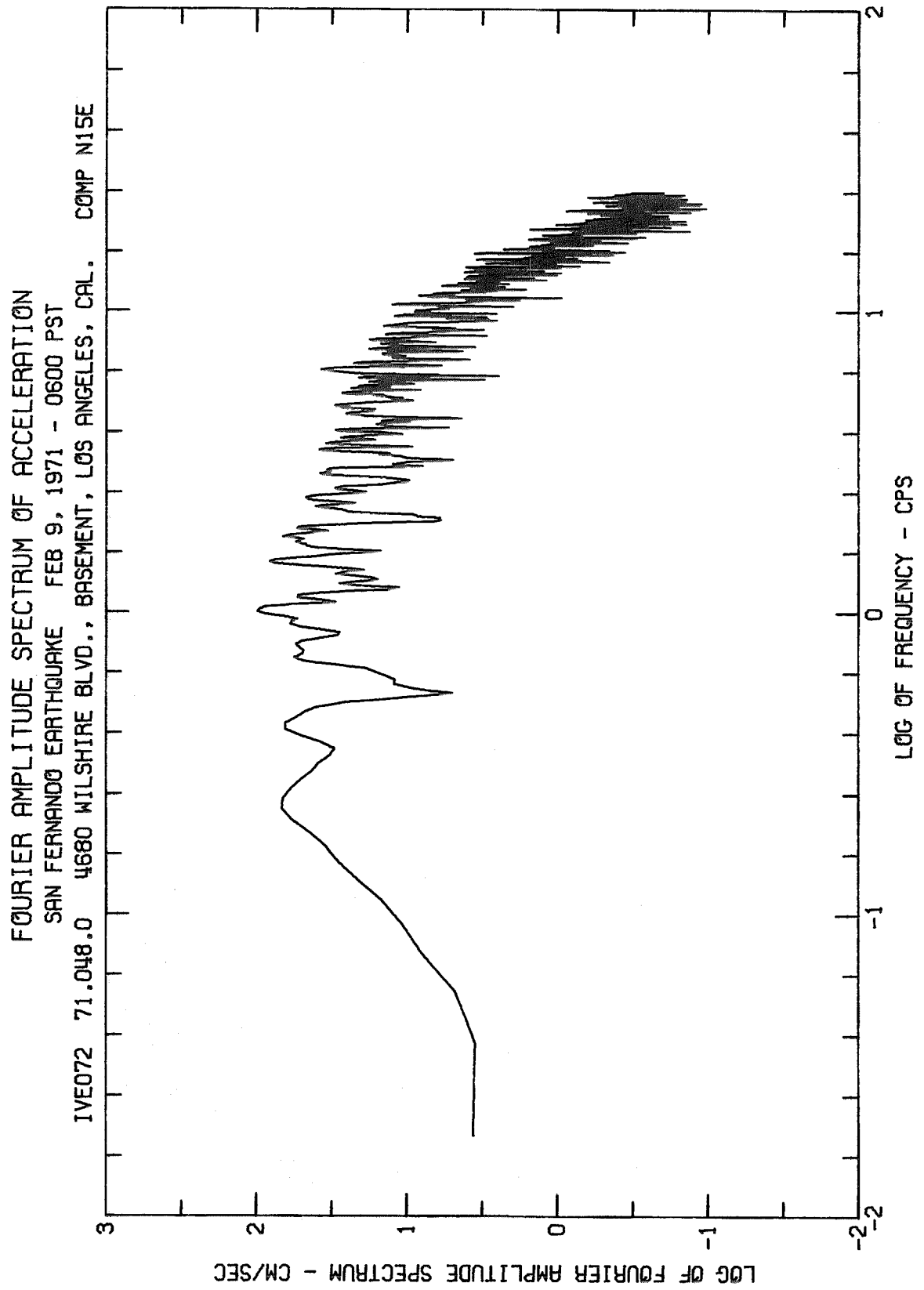
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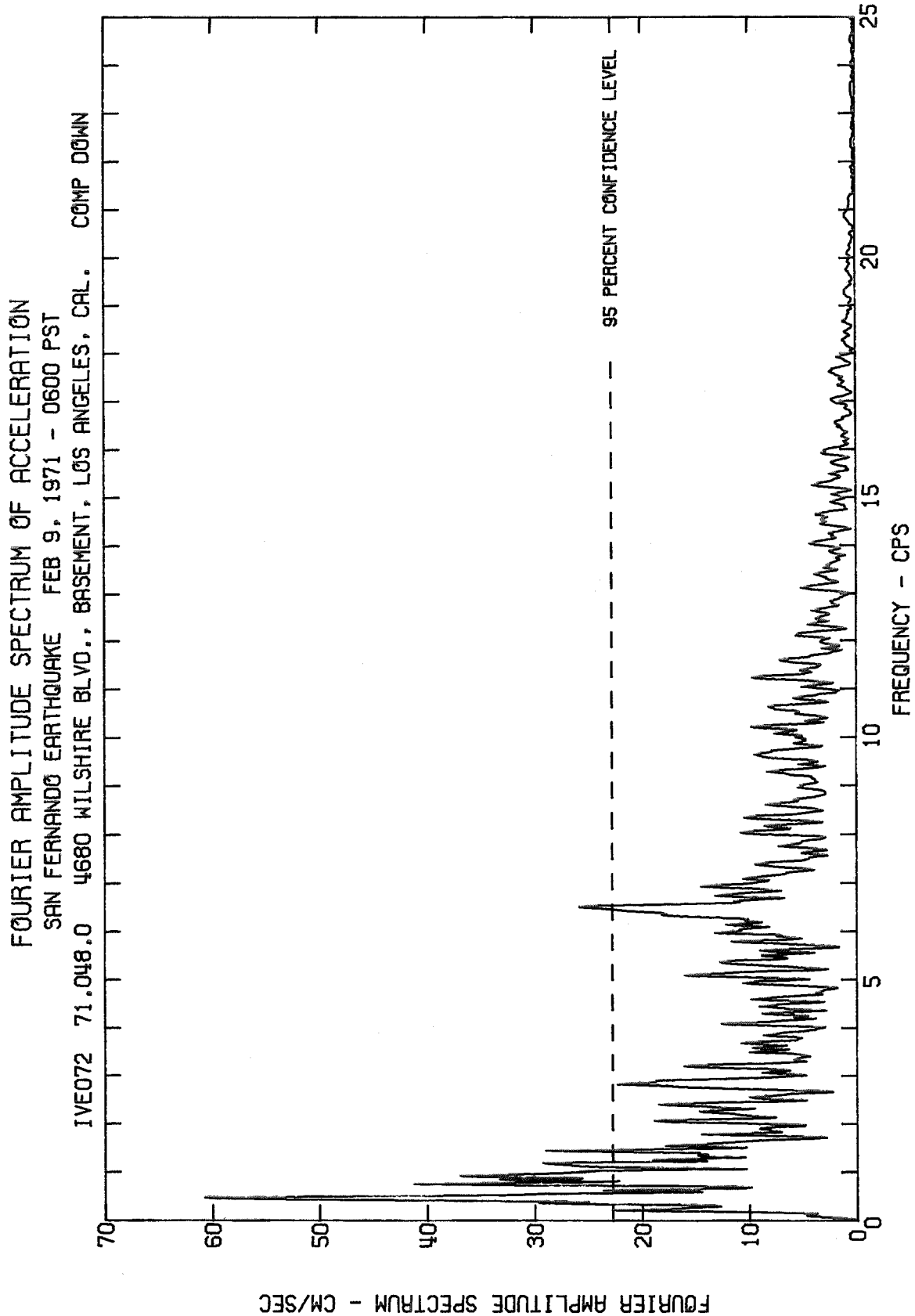
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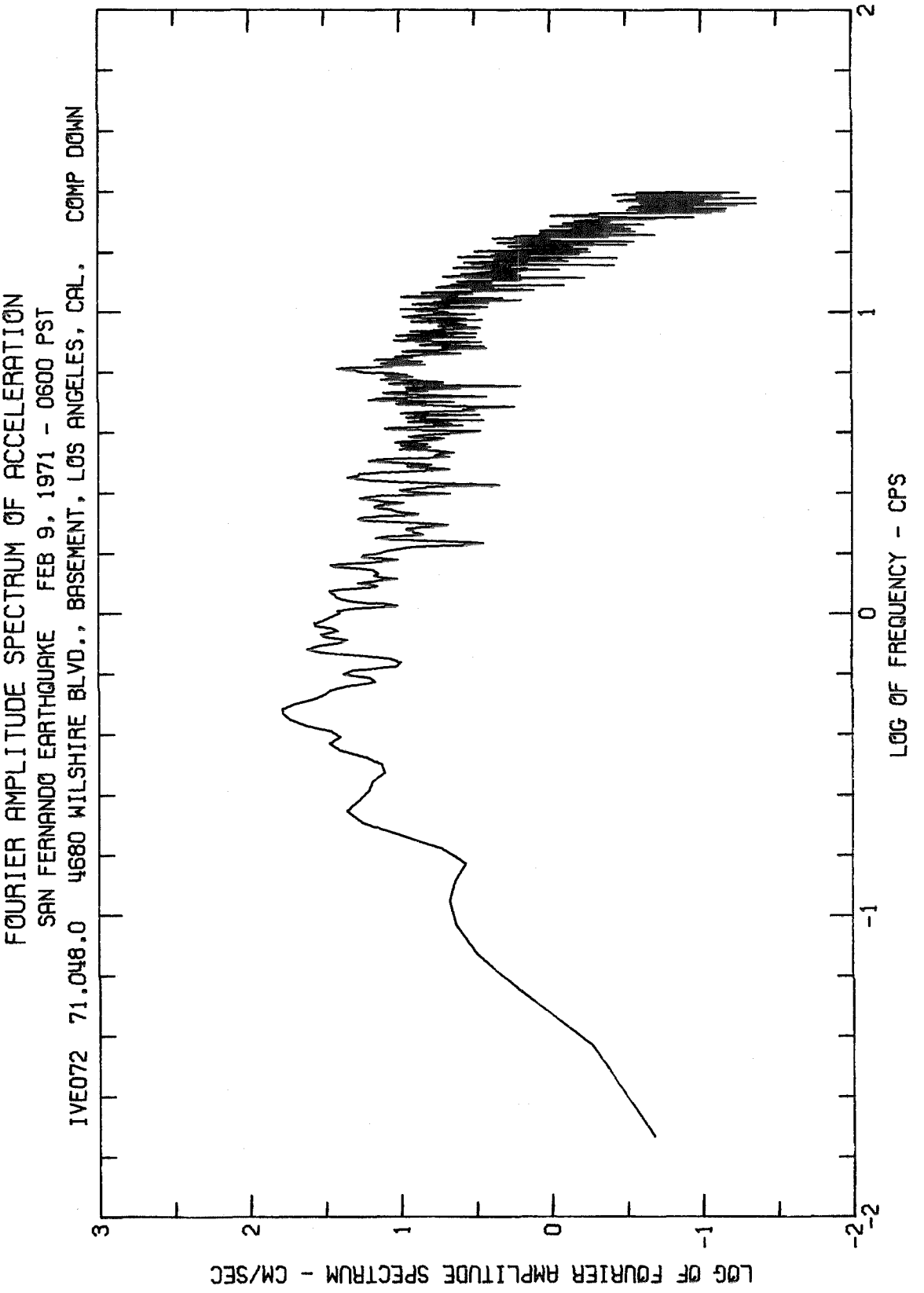
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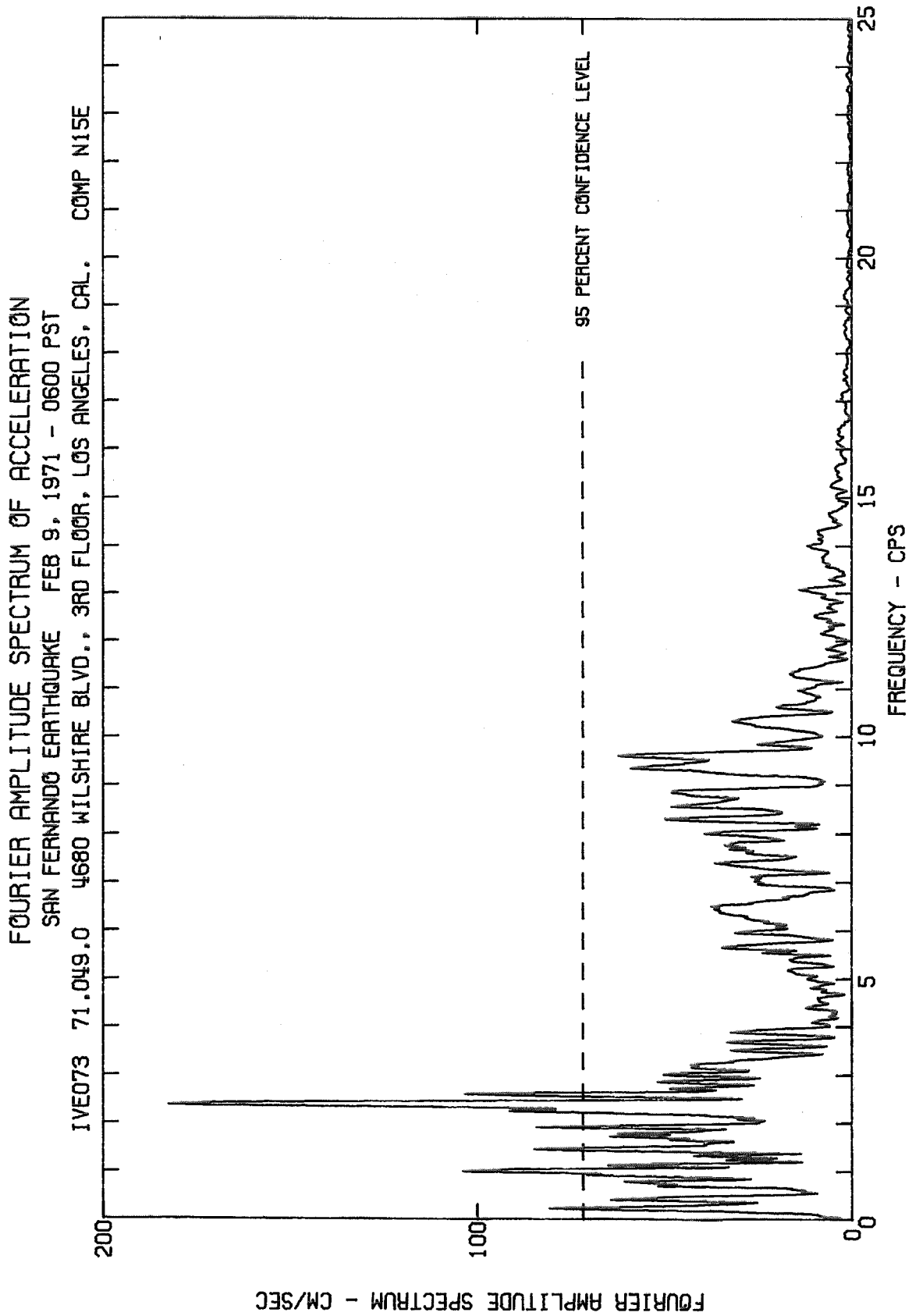
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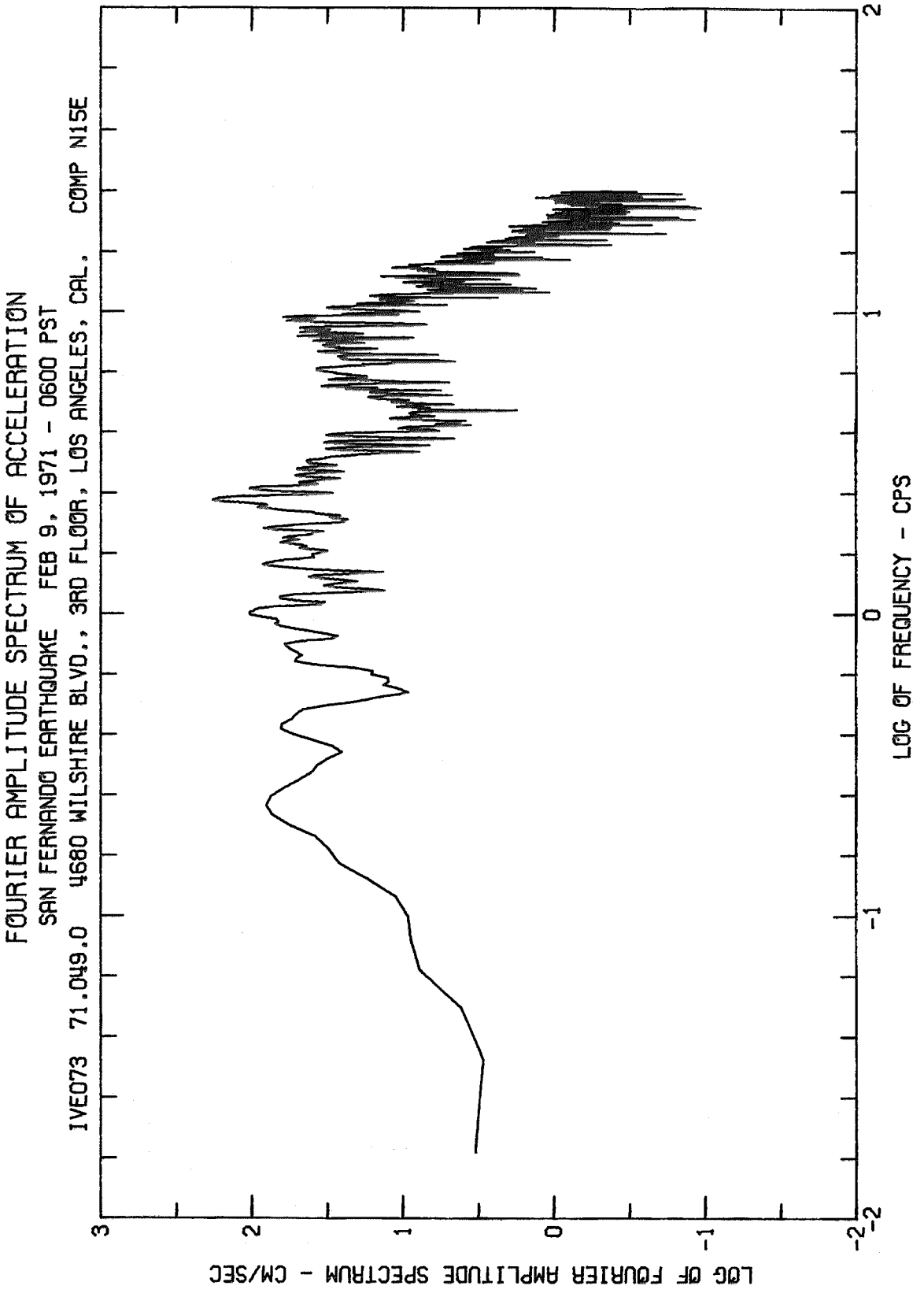
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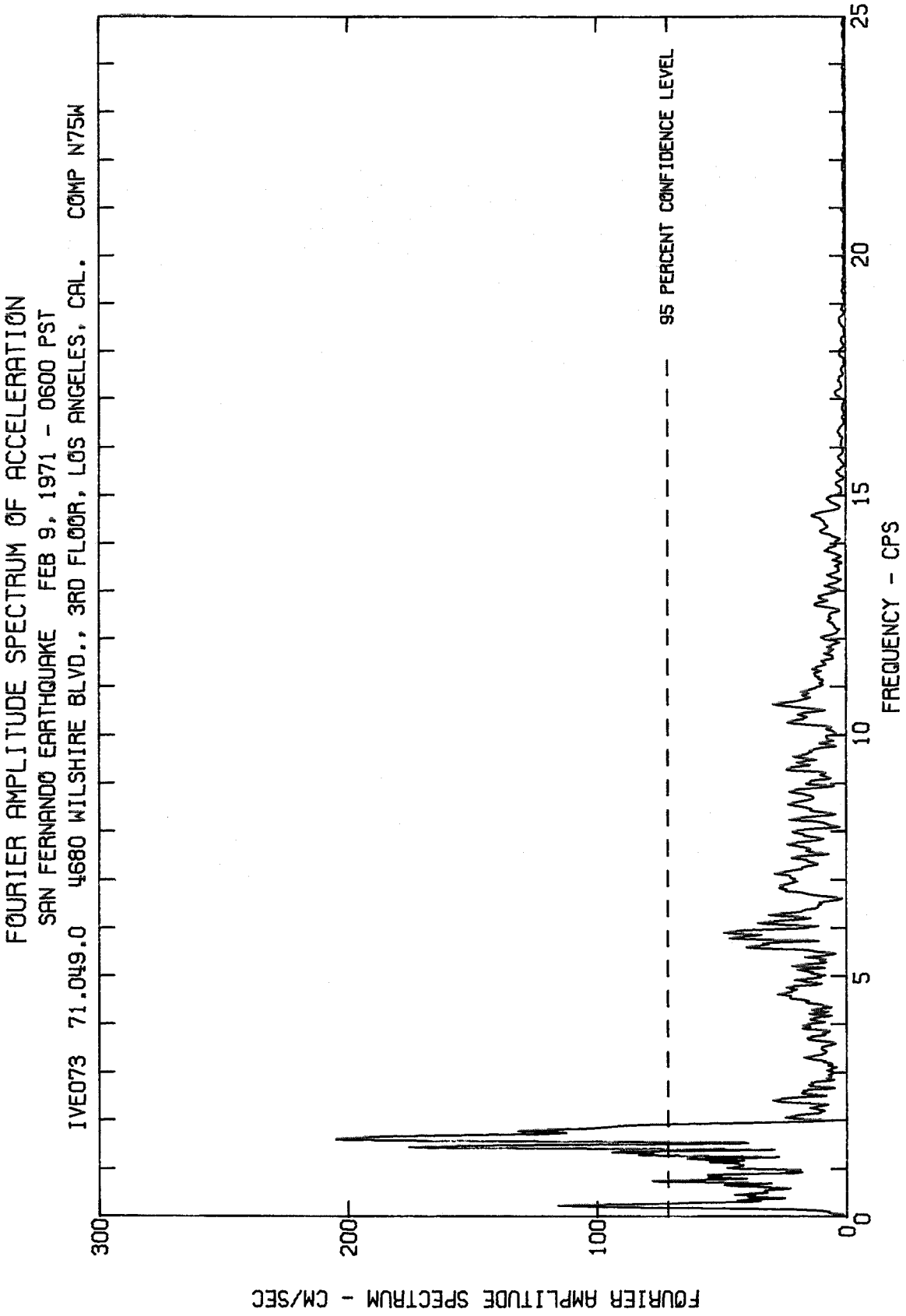
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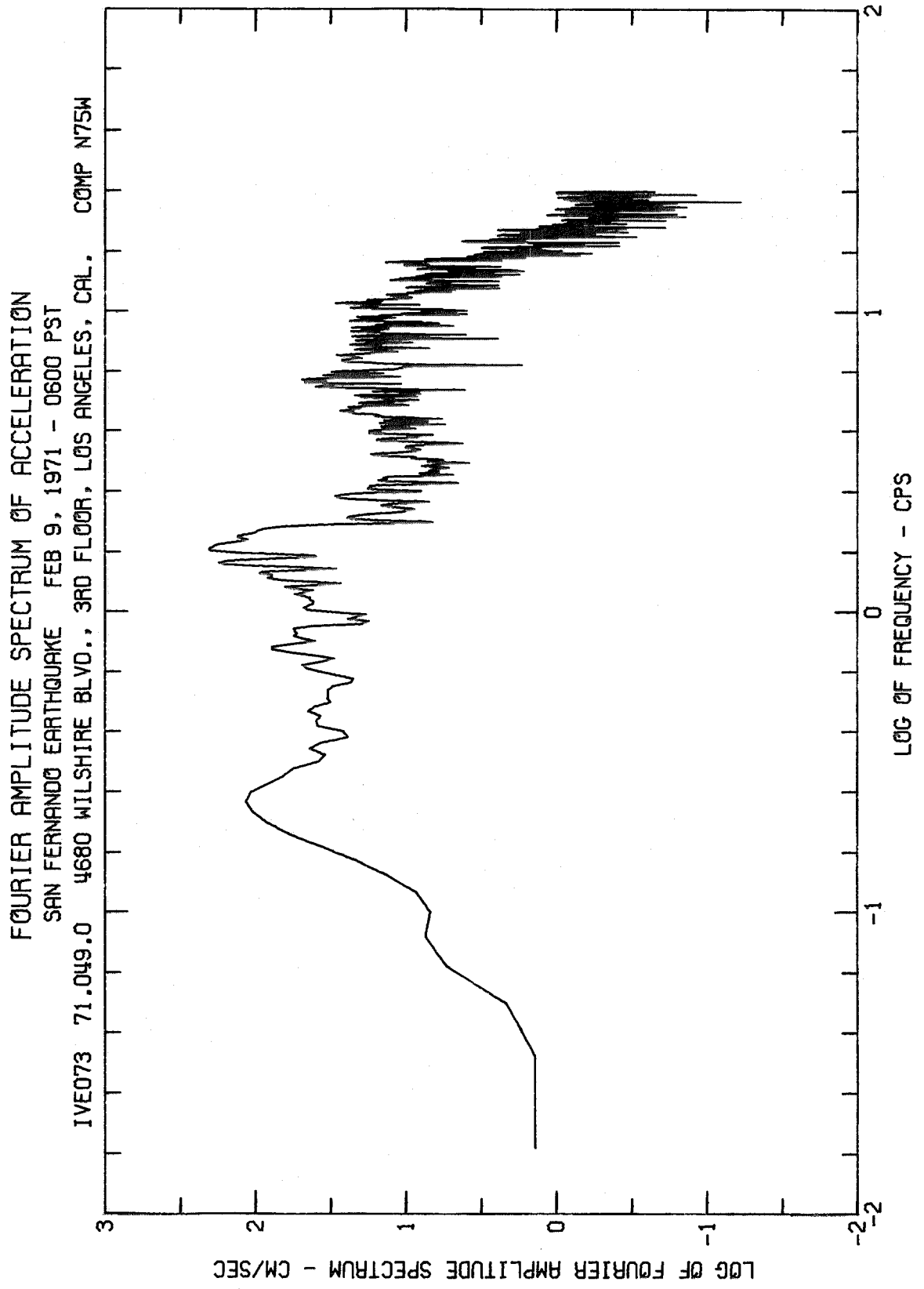
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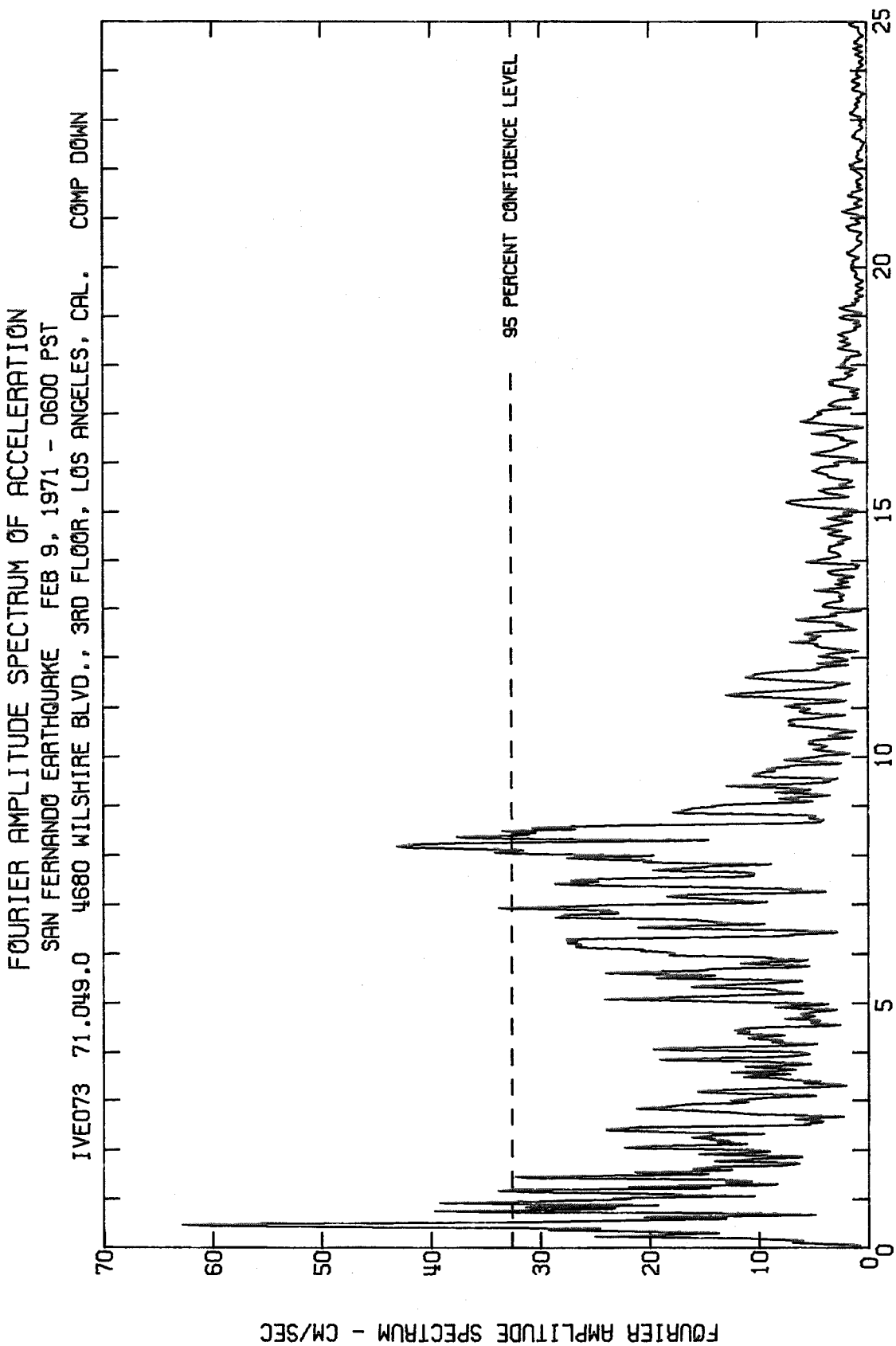
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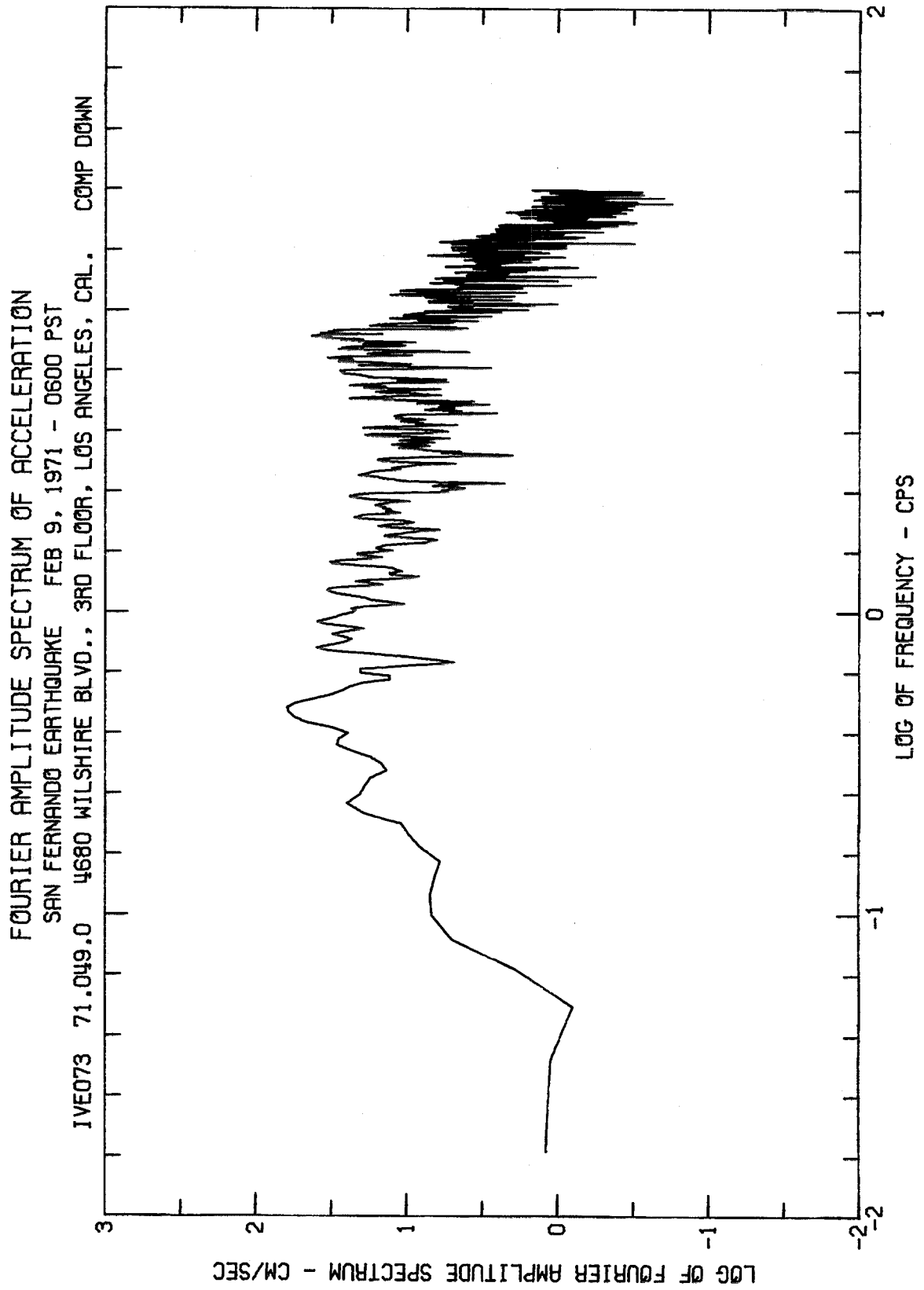
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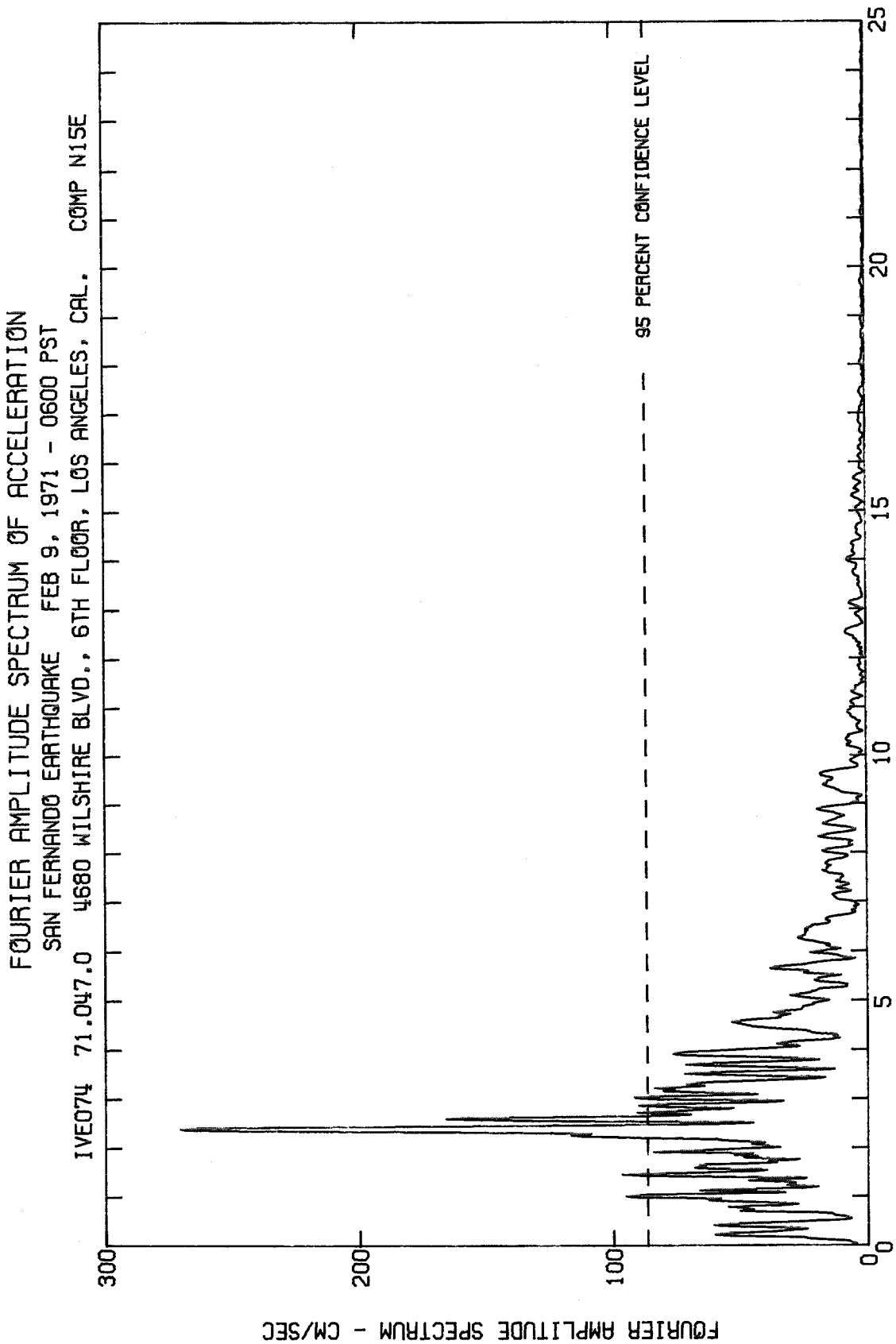
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SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE074 71.047.0 4680 WILSHIRE BLVD., 6TH FLOOR, LOS ANGELES, CAL. COMP N15E
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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100
200
300
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10
15
20
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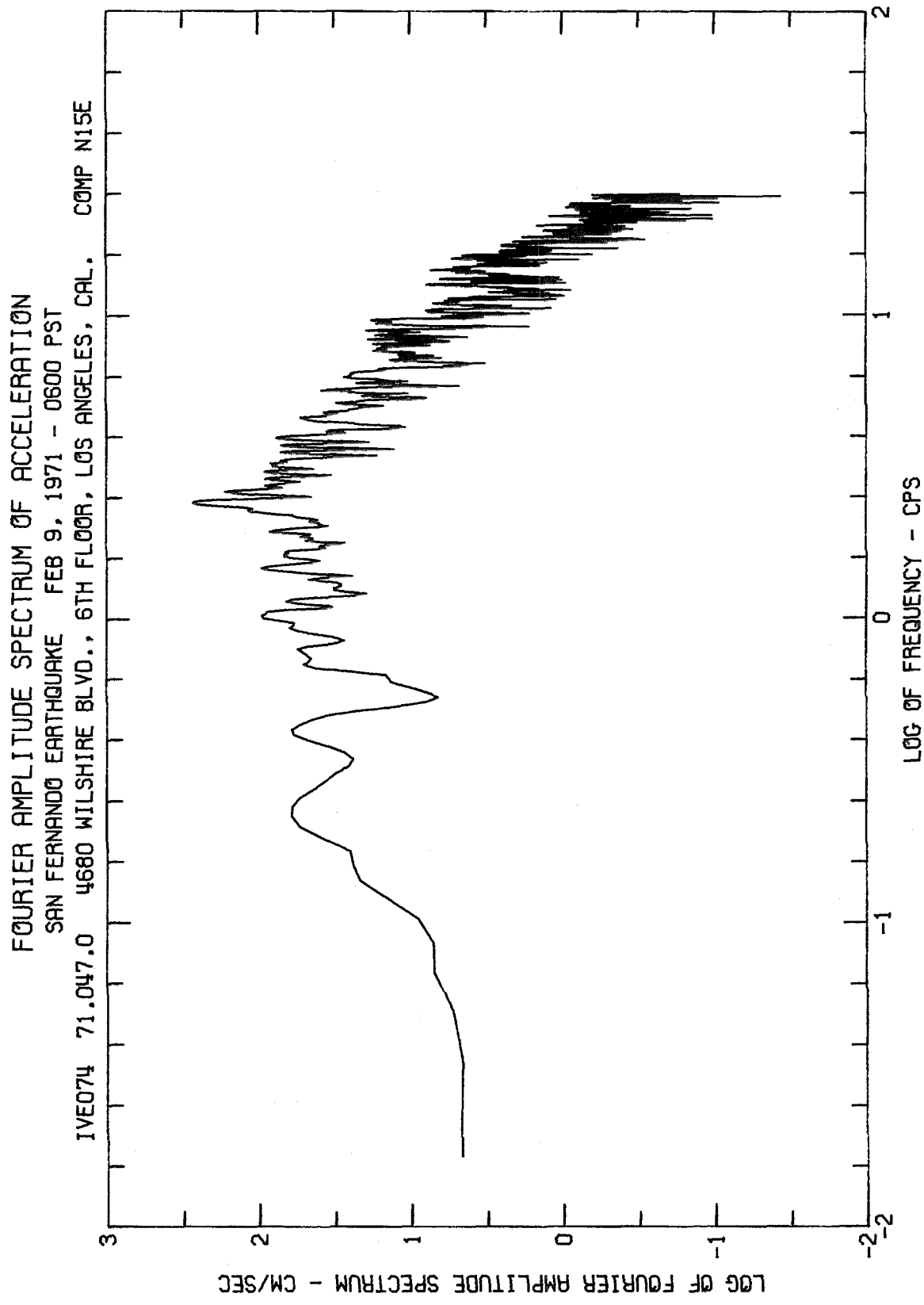
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IVE074 71.047.0 4680 WILSHIRE BLVD., 6TH FLOOR, LOS ANGELES, CAL. COMP N15E
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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-1
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-1
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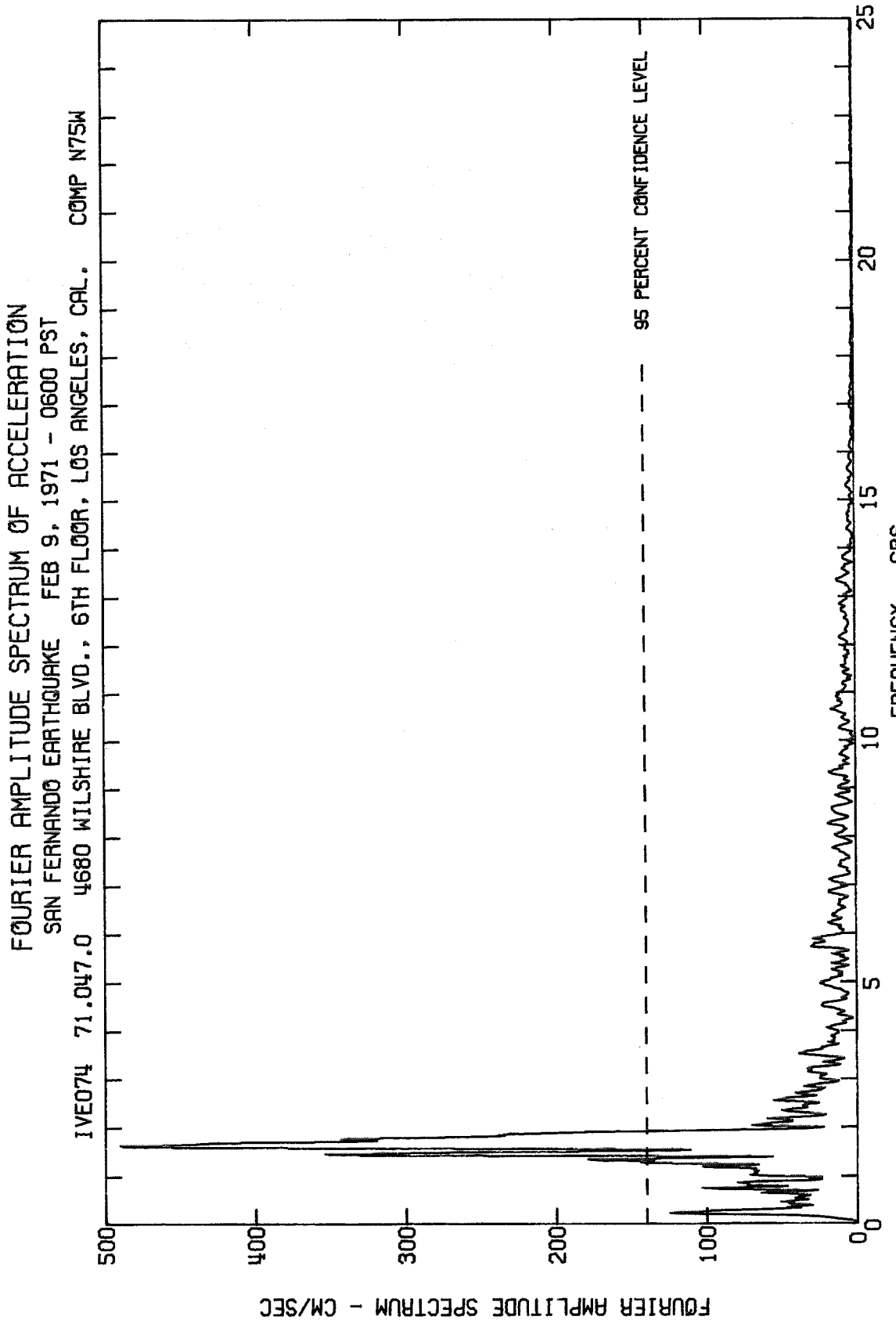
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SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
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95 PERCENT CONFIDENCE LEVEL
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FREQUENCY - CPS
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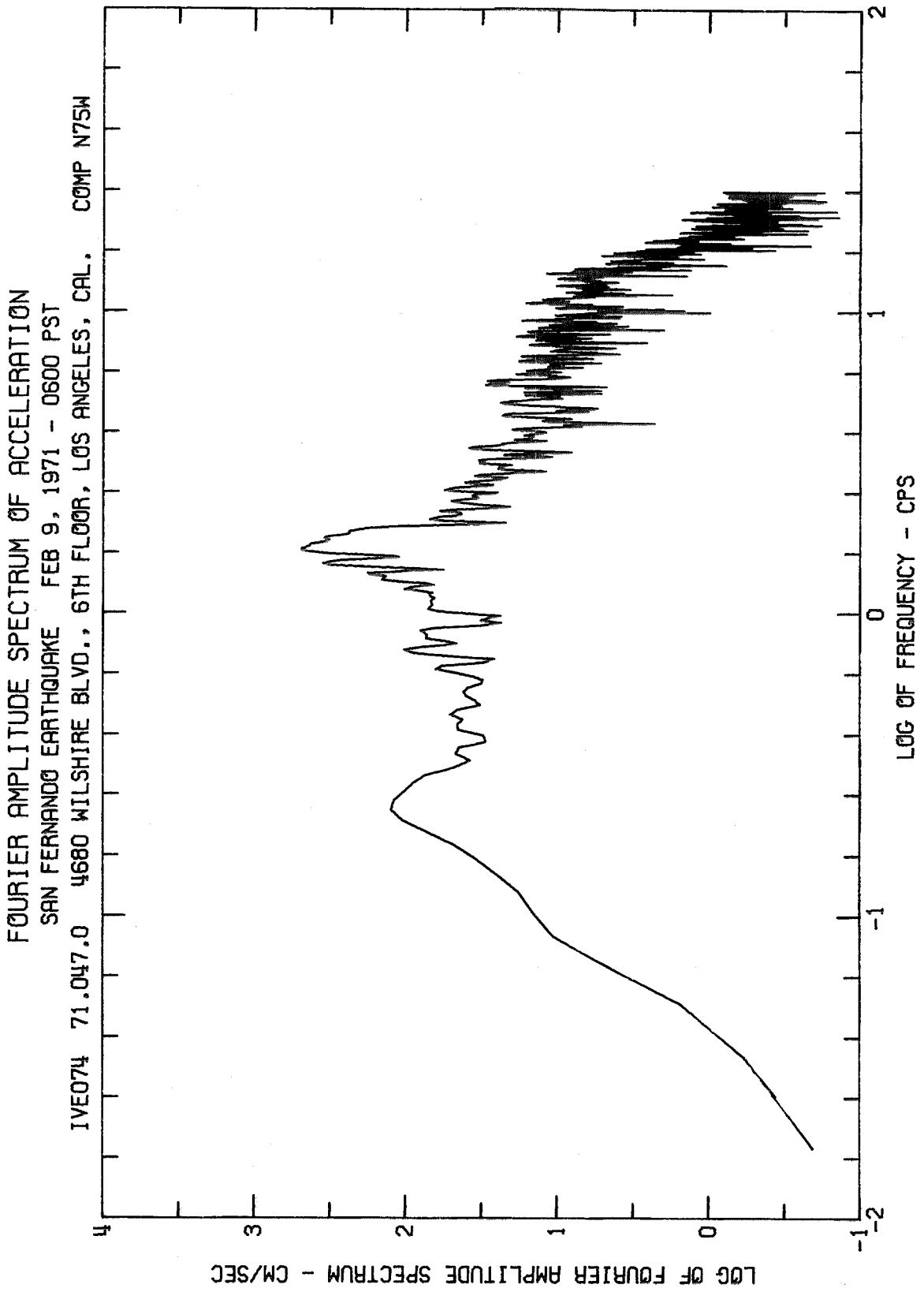
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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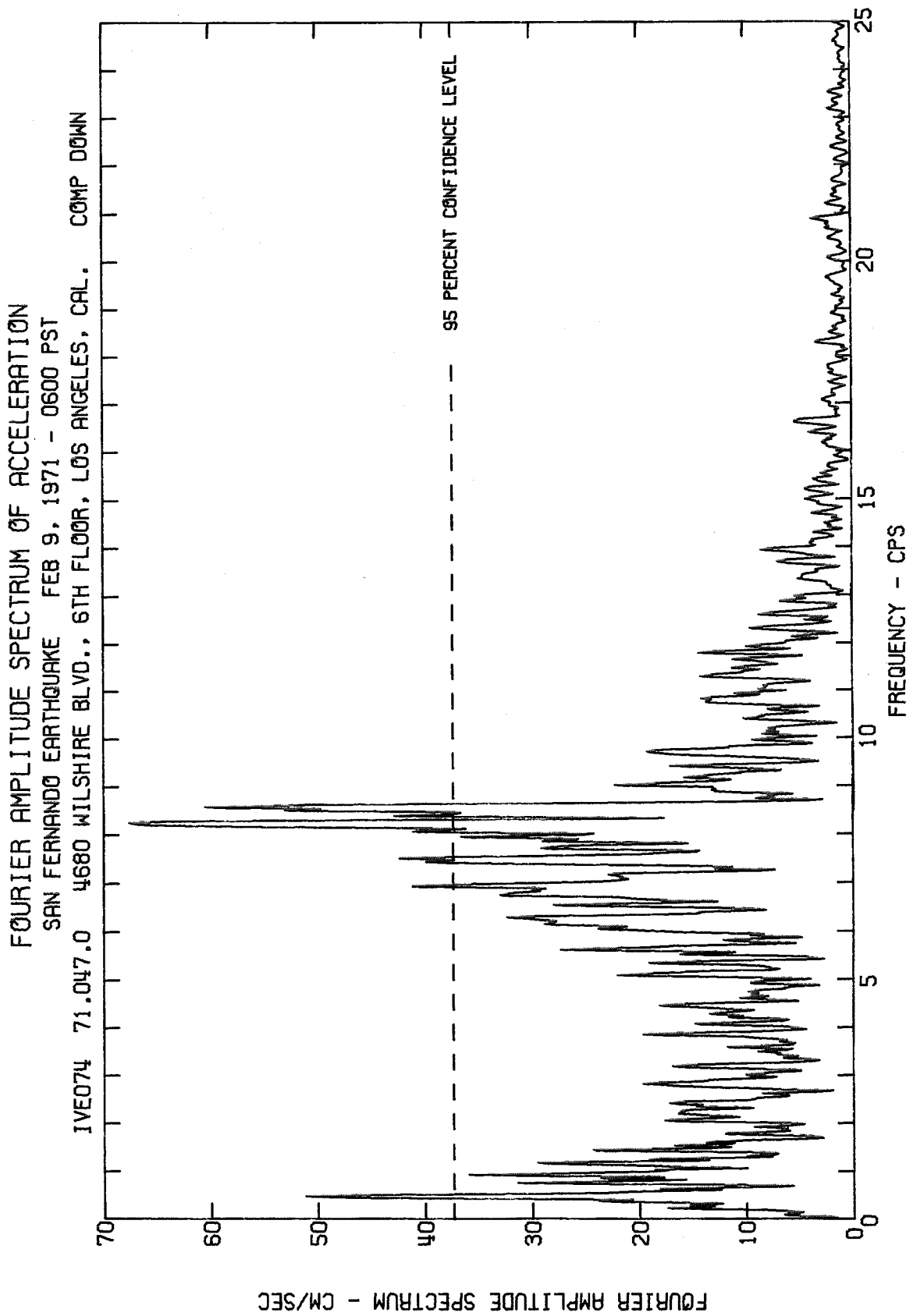
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SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
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95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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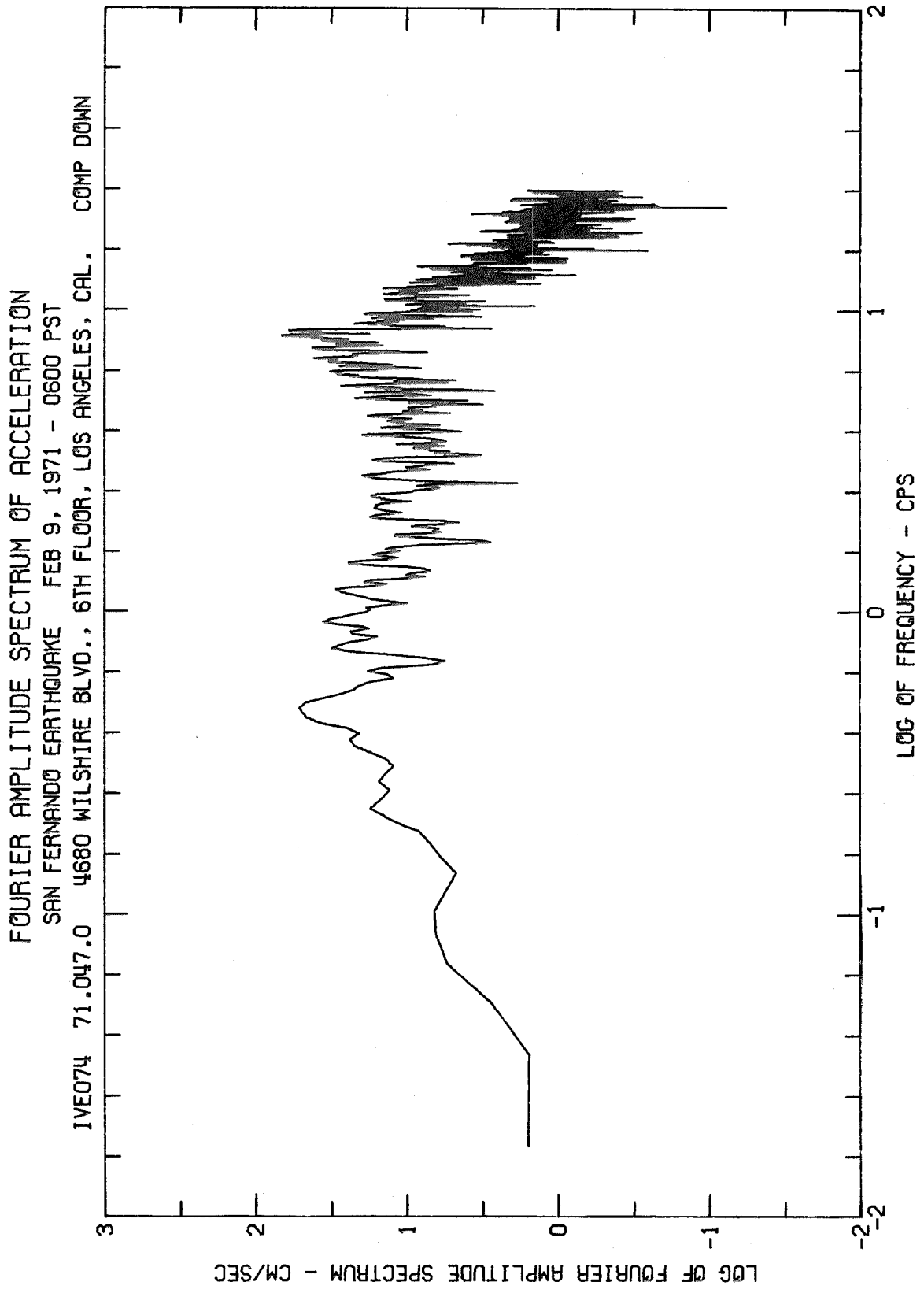
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IVE074 71.047.0 4680 WILSHIRE BLVD., 6TH FLOOR, LOS ANGELES, CAL. COMP DOWN
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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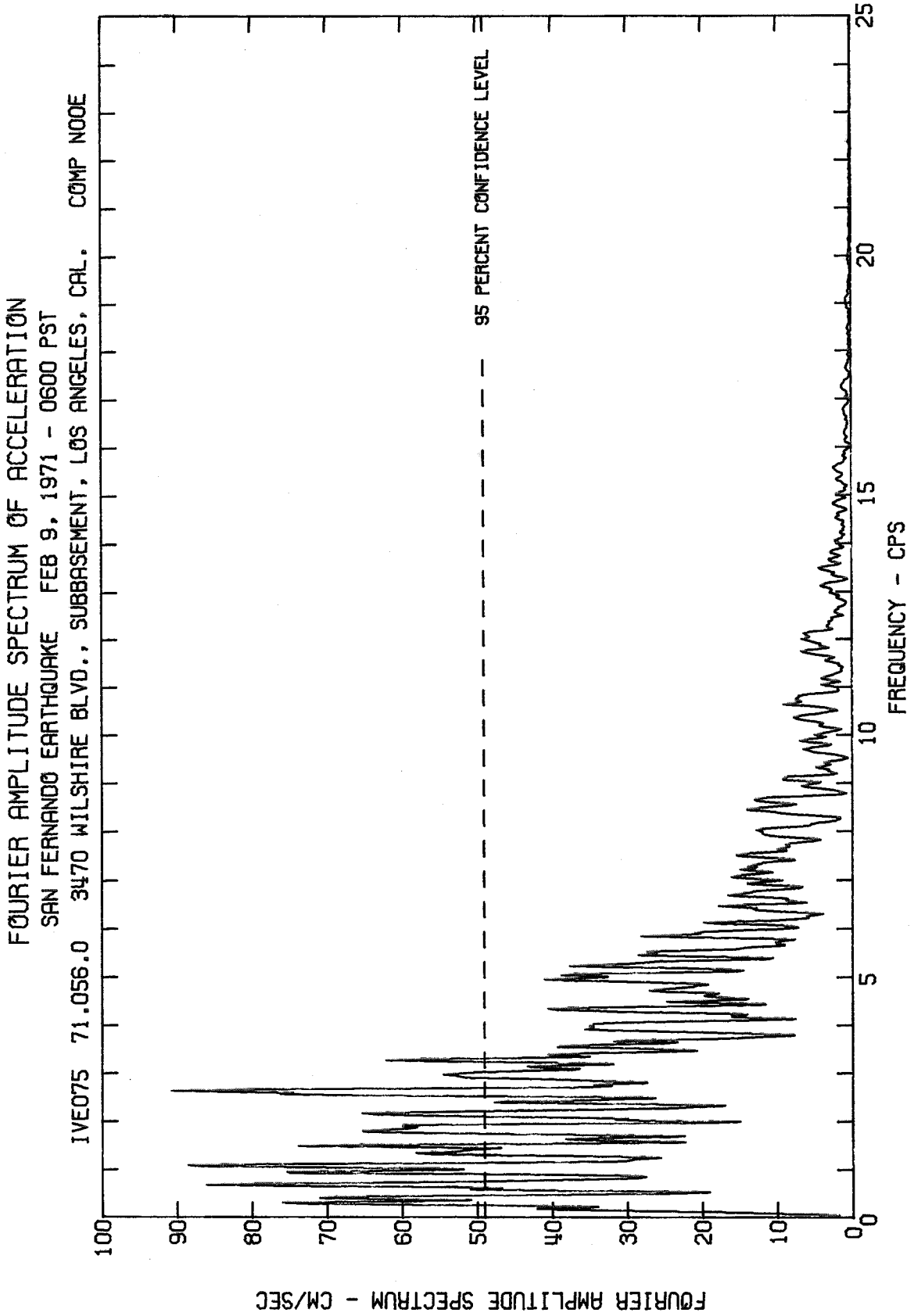
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SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE075 71.056.0 3470 WILSHIRE BLVD., SUBBASEMENT, LOS ANGELES, CAL. COMP NOOE
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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90
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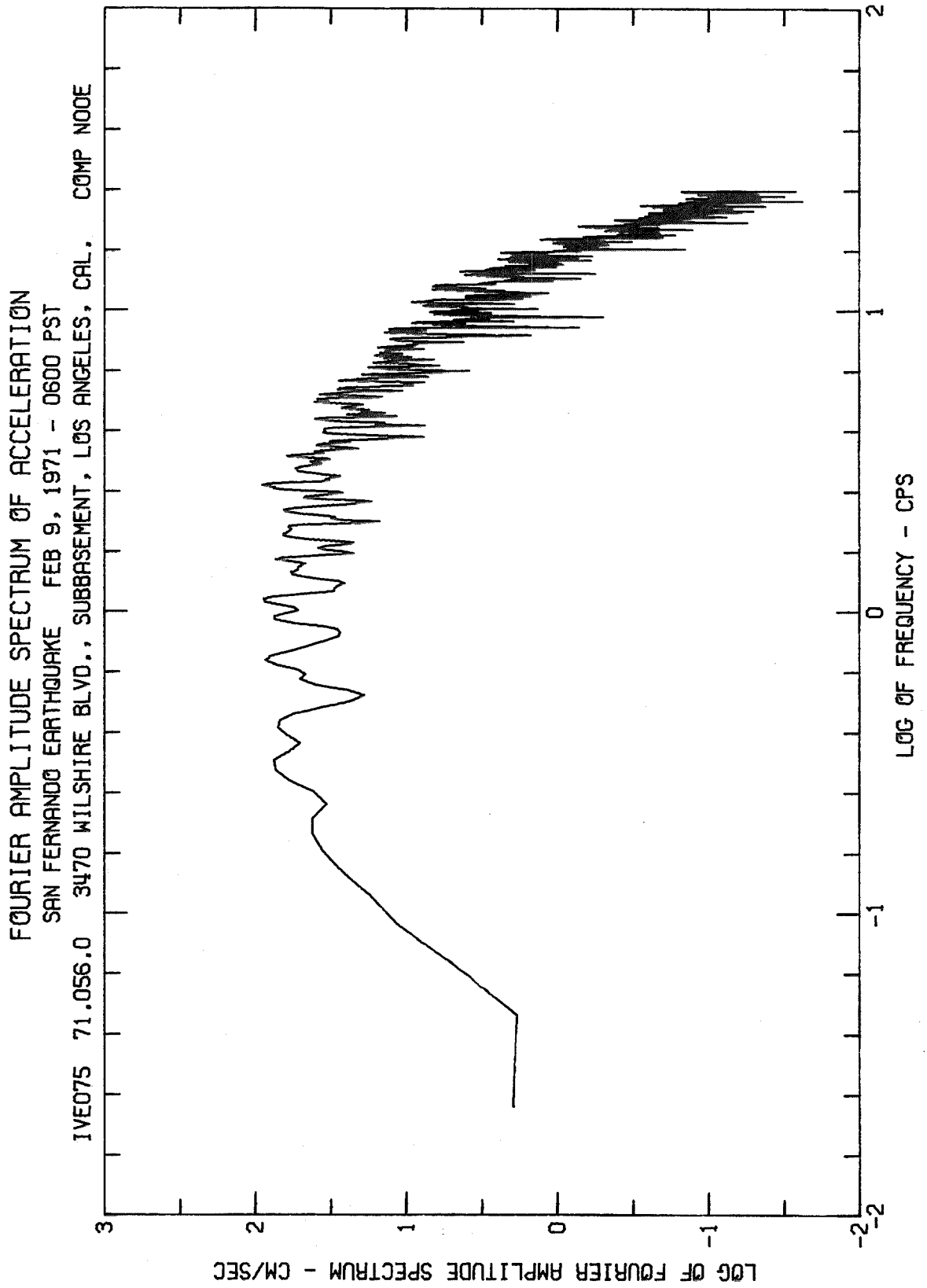
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SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE075 71.056.0 3470 WILSHIRE BLVD., SUBBASEMENT, LOS ANGELES, CAL. COMP N00E
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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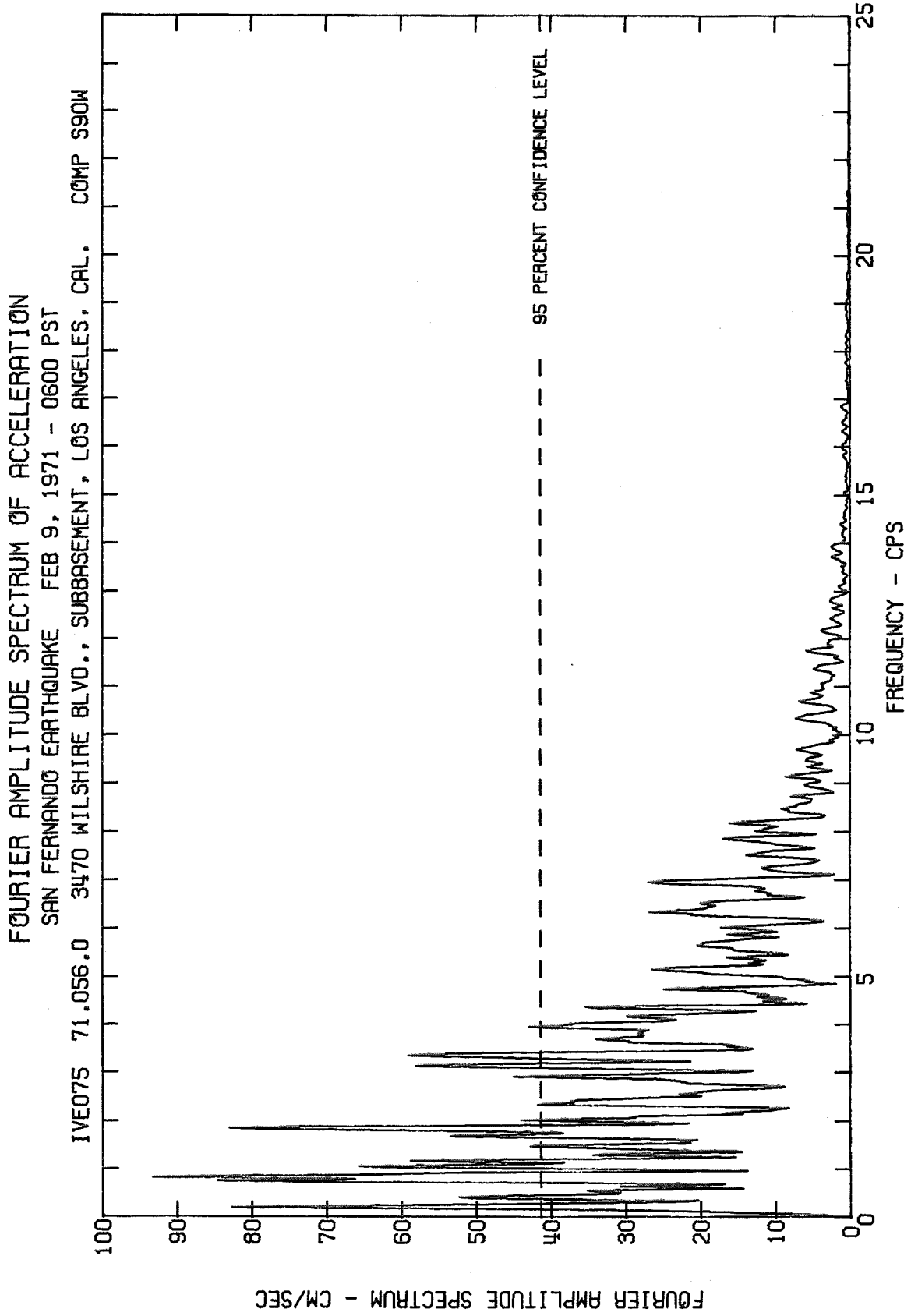
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95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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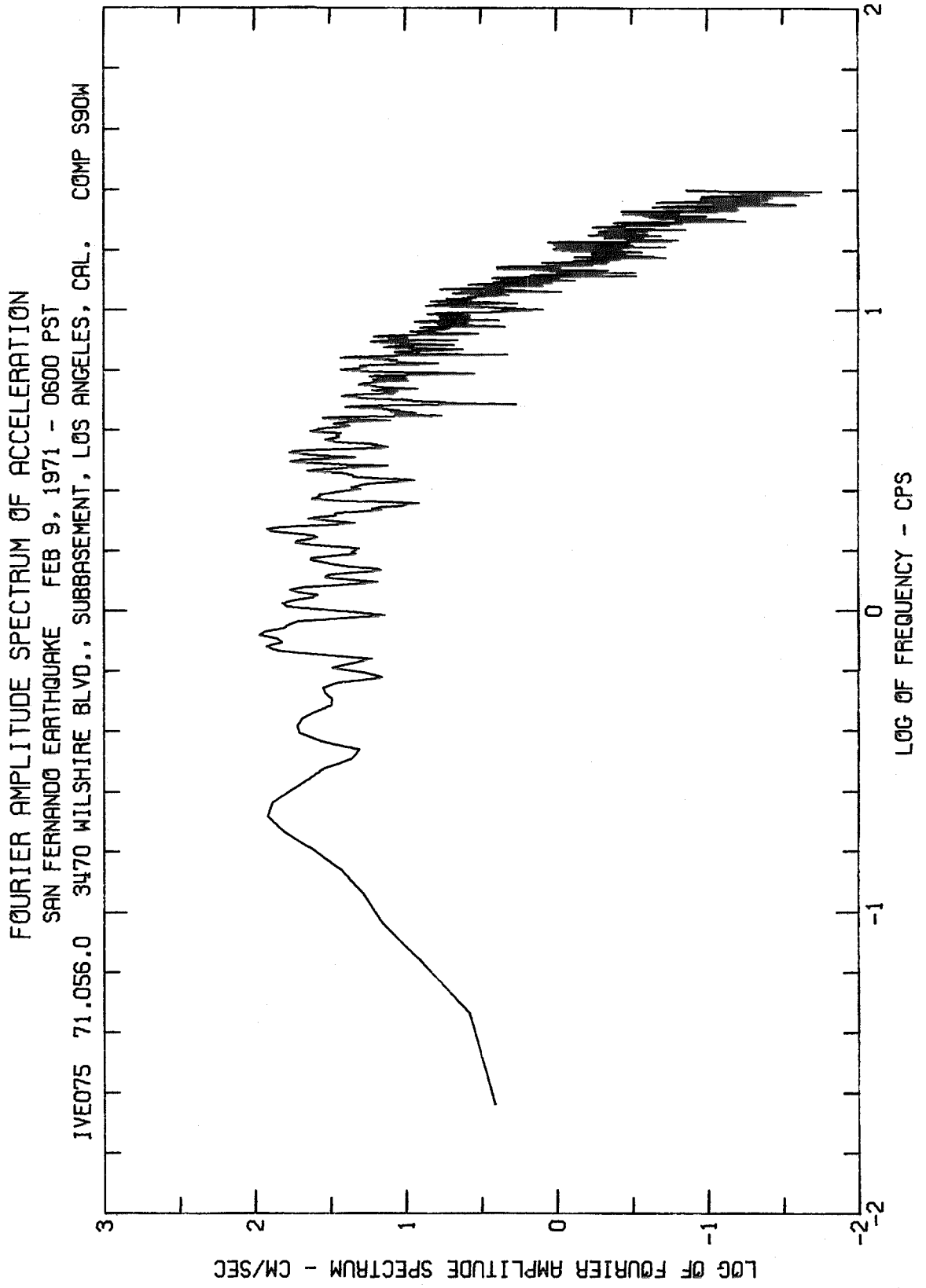
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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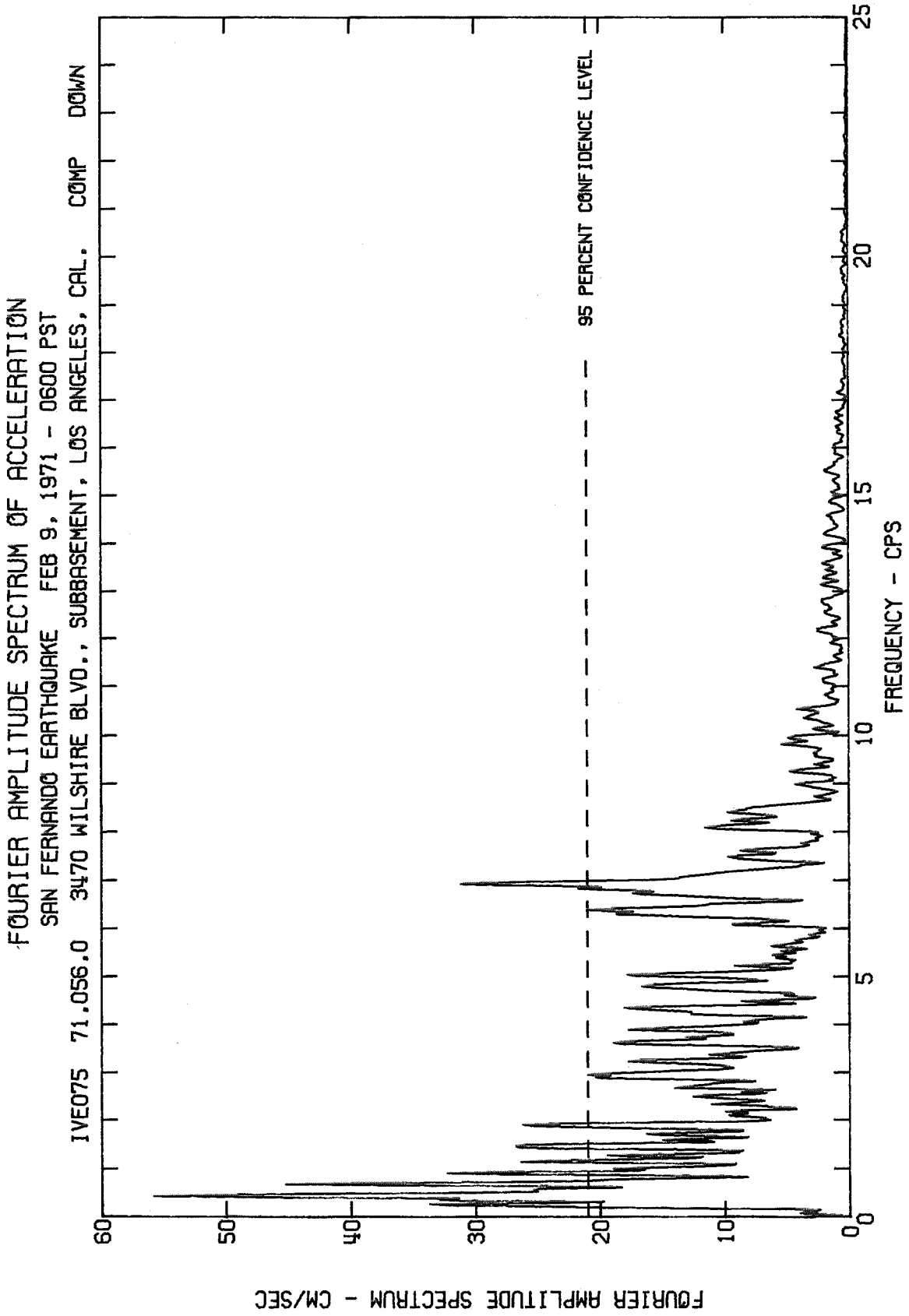
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SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
1VE075 71.056.0 3470 WILSHIRE BLVD., SUBBASEMENT, LOS ANGELES, CAL. COMP DOWN
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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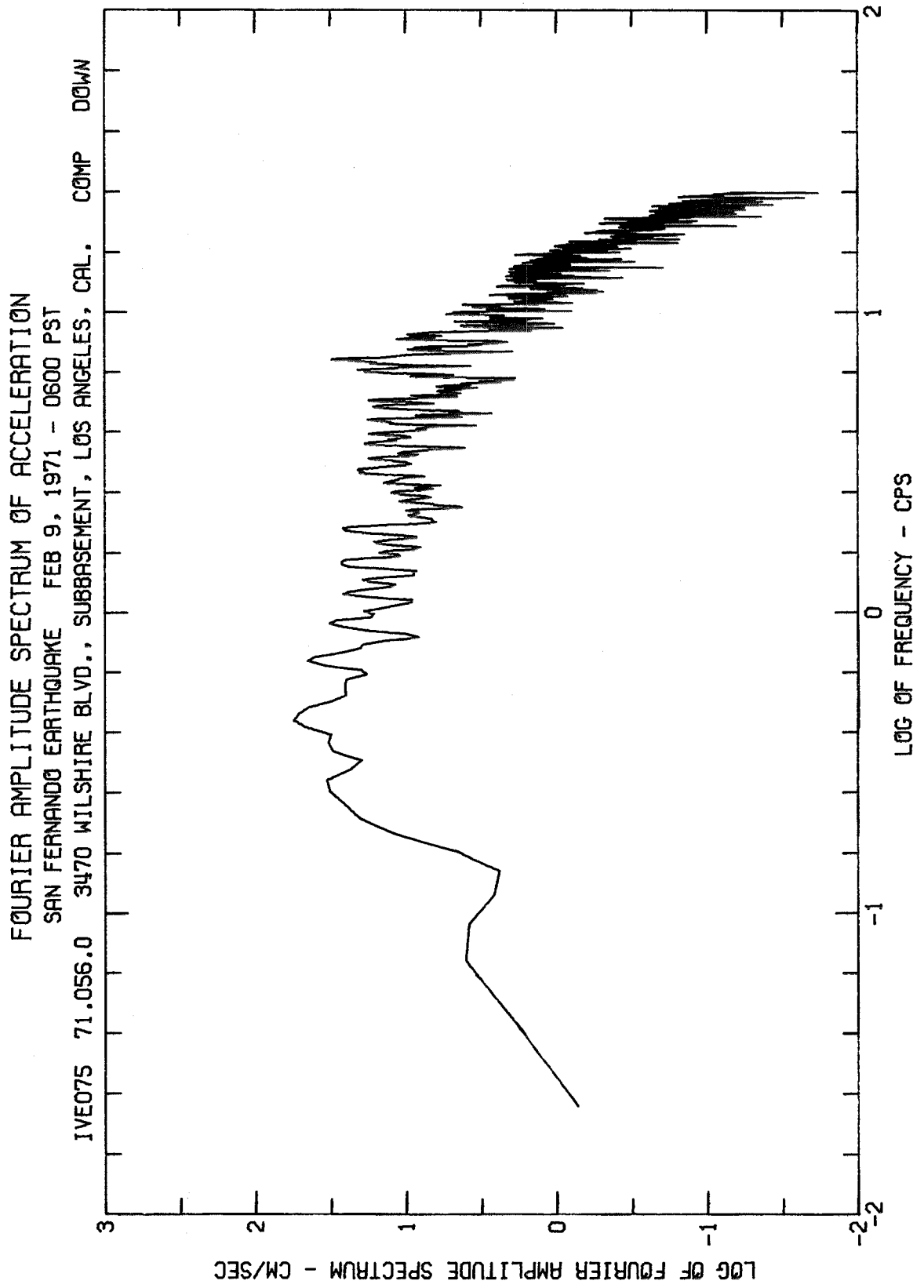
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE075 71.056.0 3470 WILSHIRE BLVD., SUBBASEMENT, LOS ANGELES, CAL. COMP DOWN
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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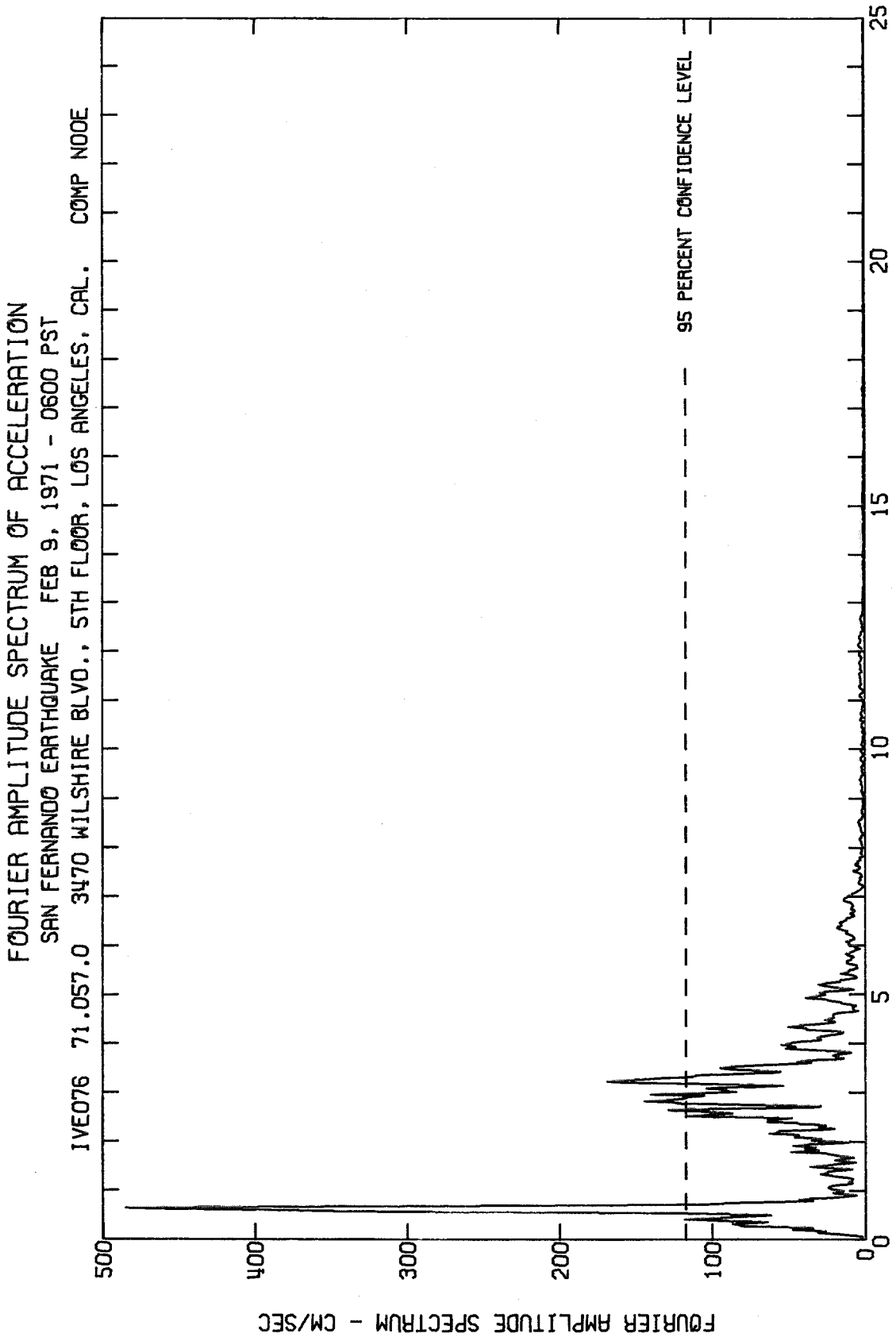
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95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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500
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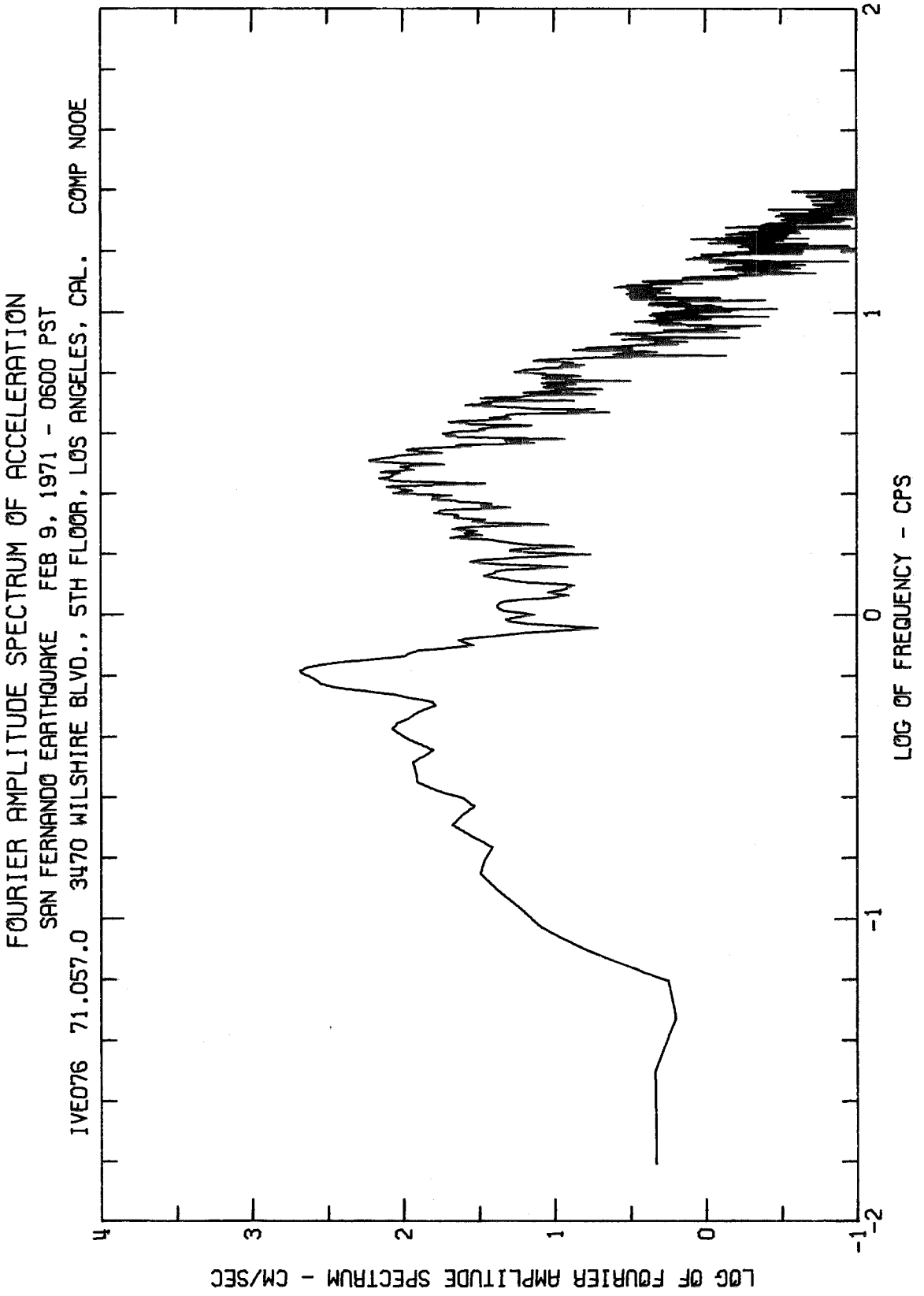
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
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IVE076 71.057.0 3470 WILSHIRE BLVD., 5TH FLOOR, LOS ANGELES, CAL. COMP N00E
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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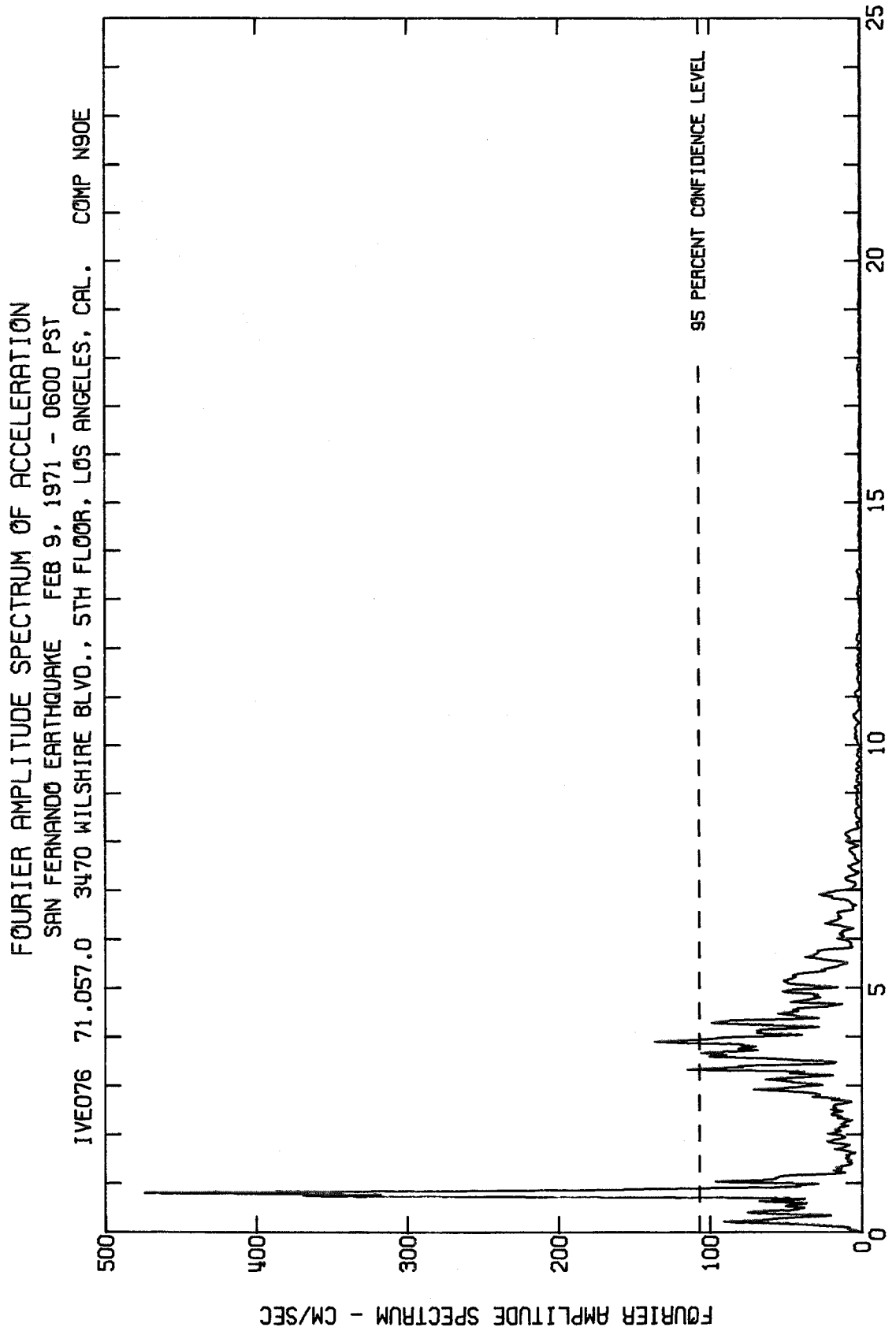
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IVE076 71.057.0 3470 WILSHIRE BLVD., 5TH FLOOR, LOS ANGELES, CAL. COMP N90E
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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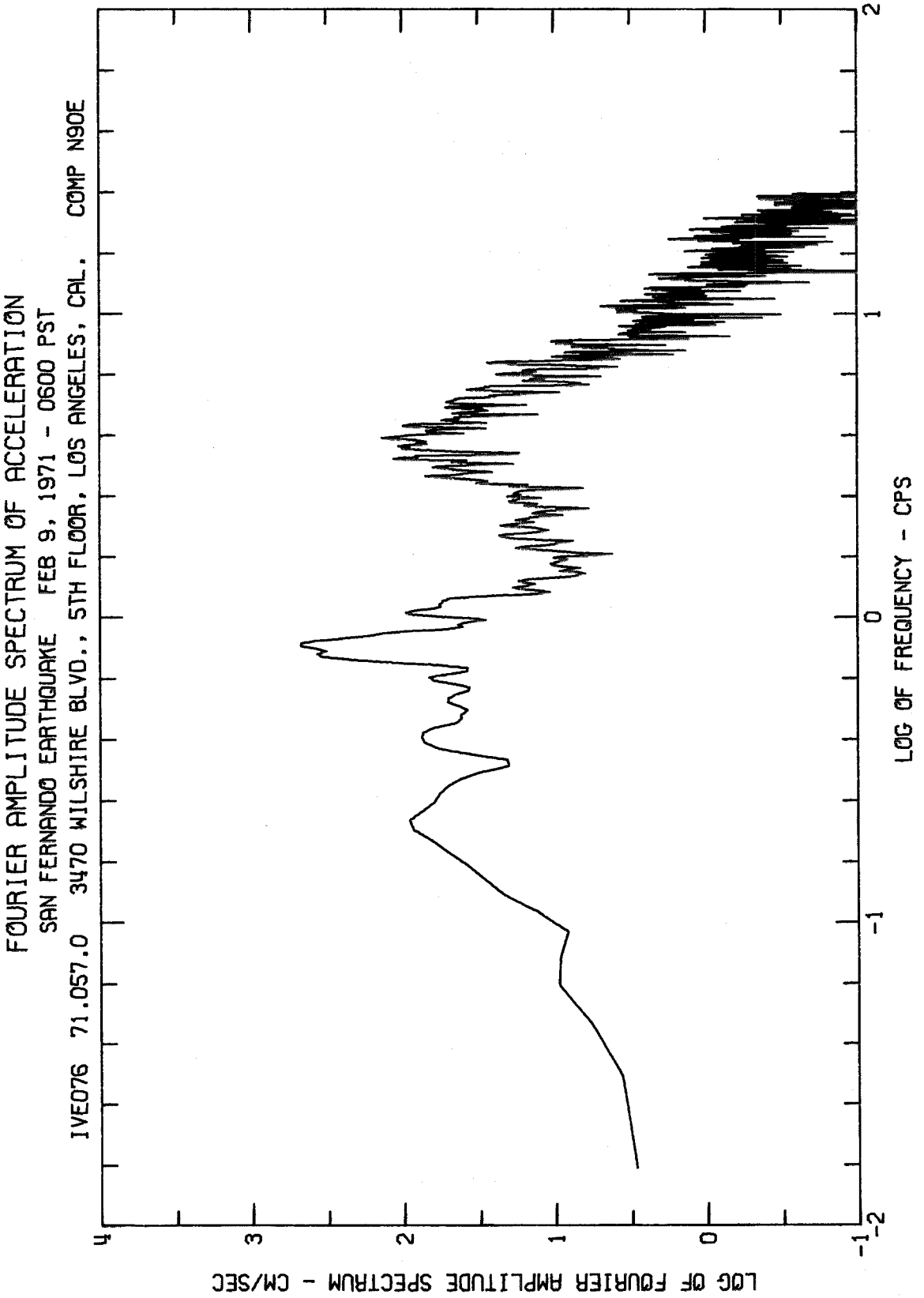
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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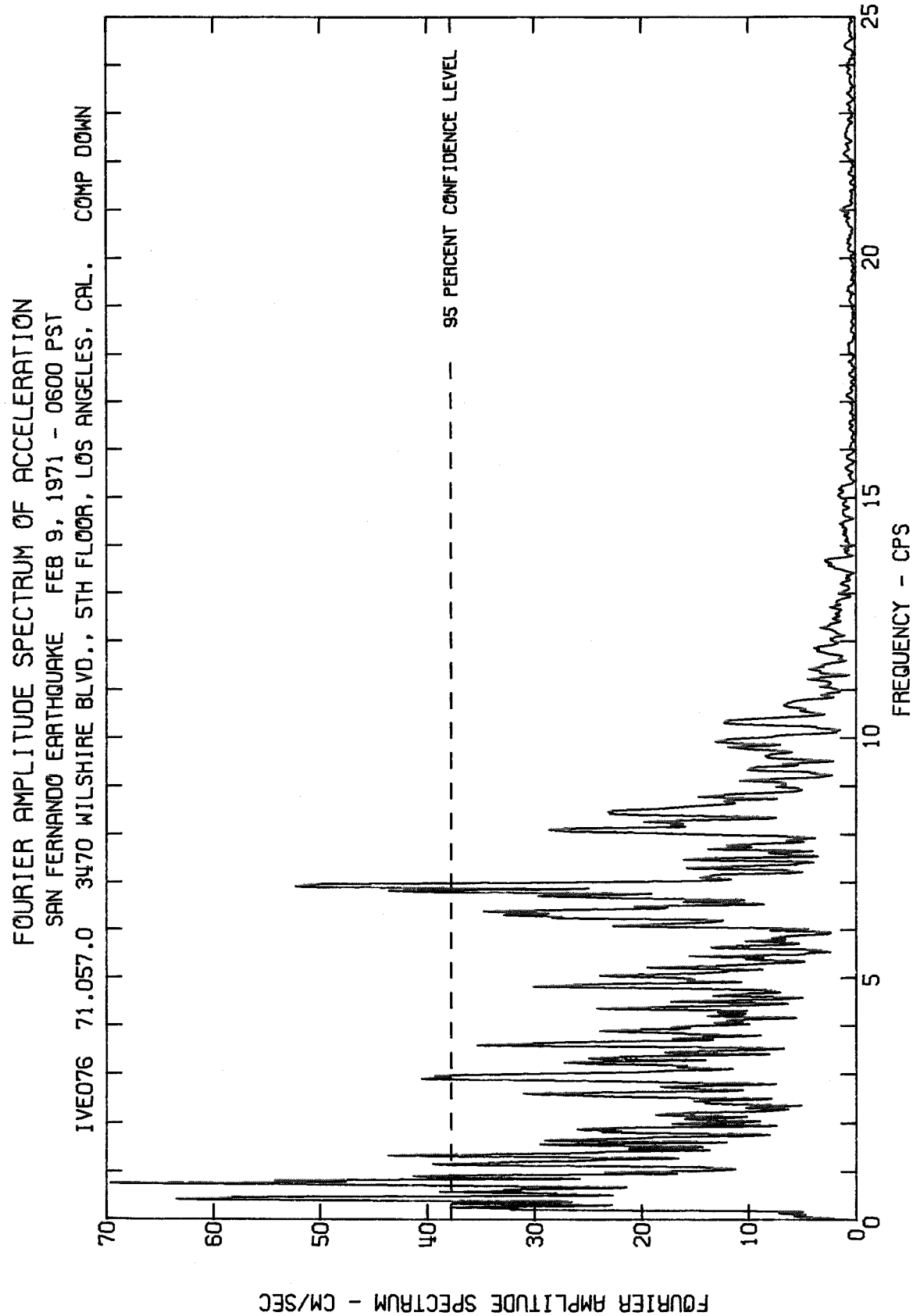
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95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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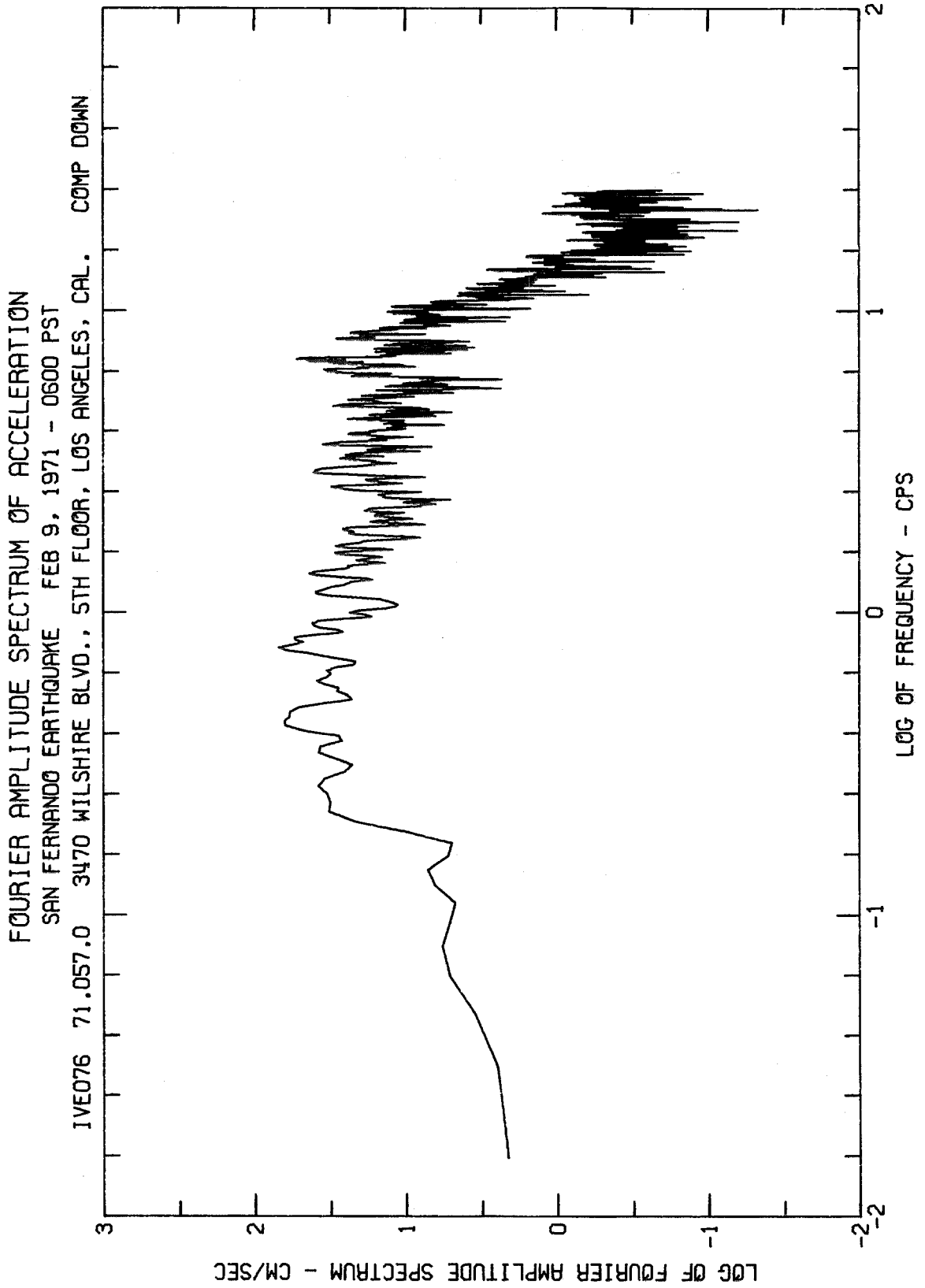
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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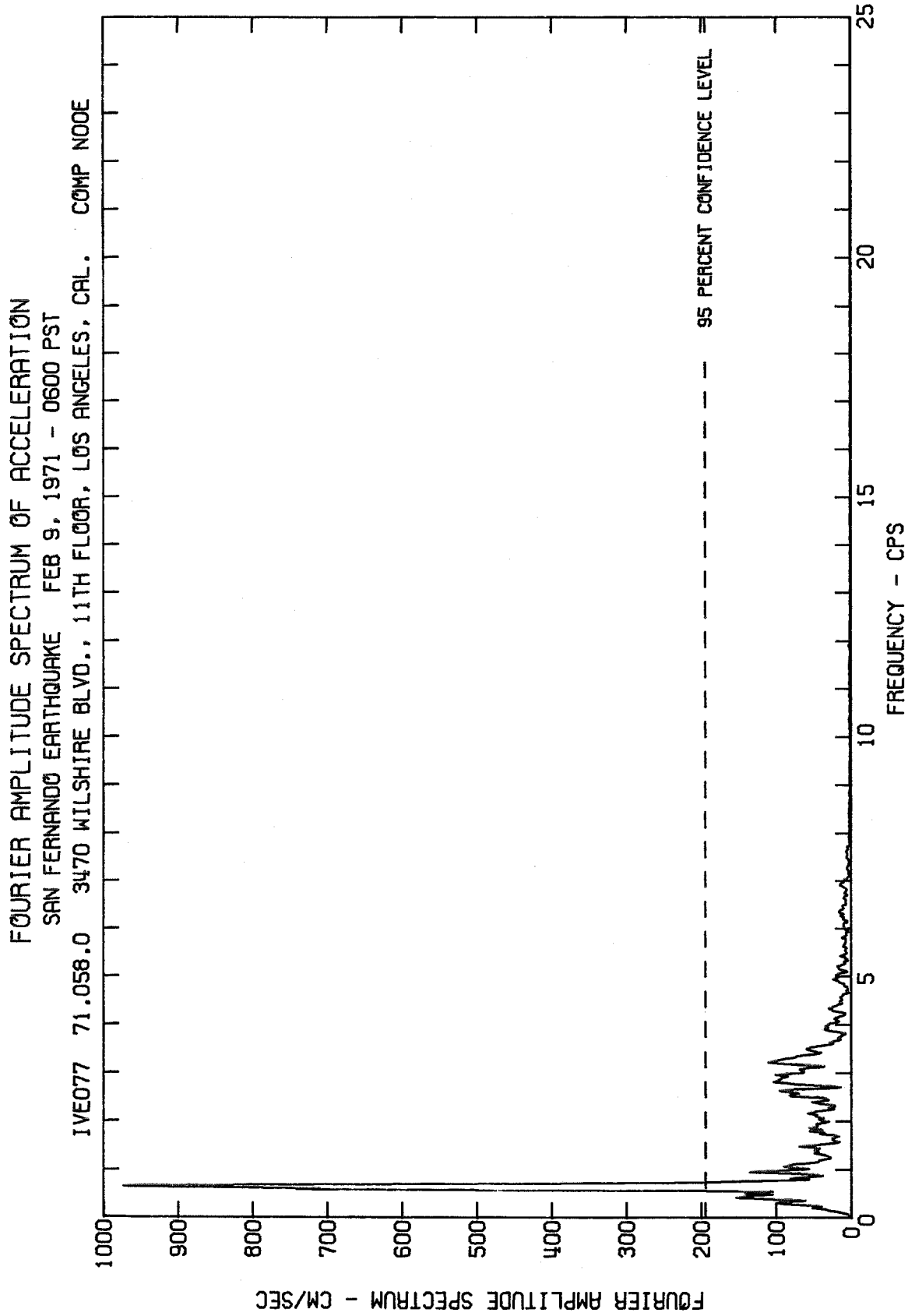
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95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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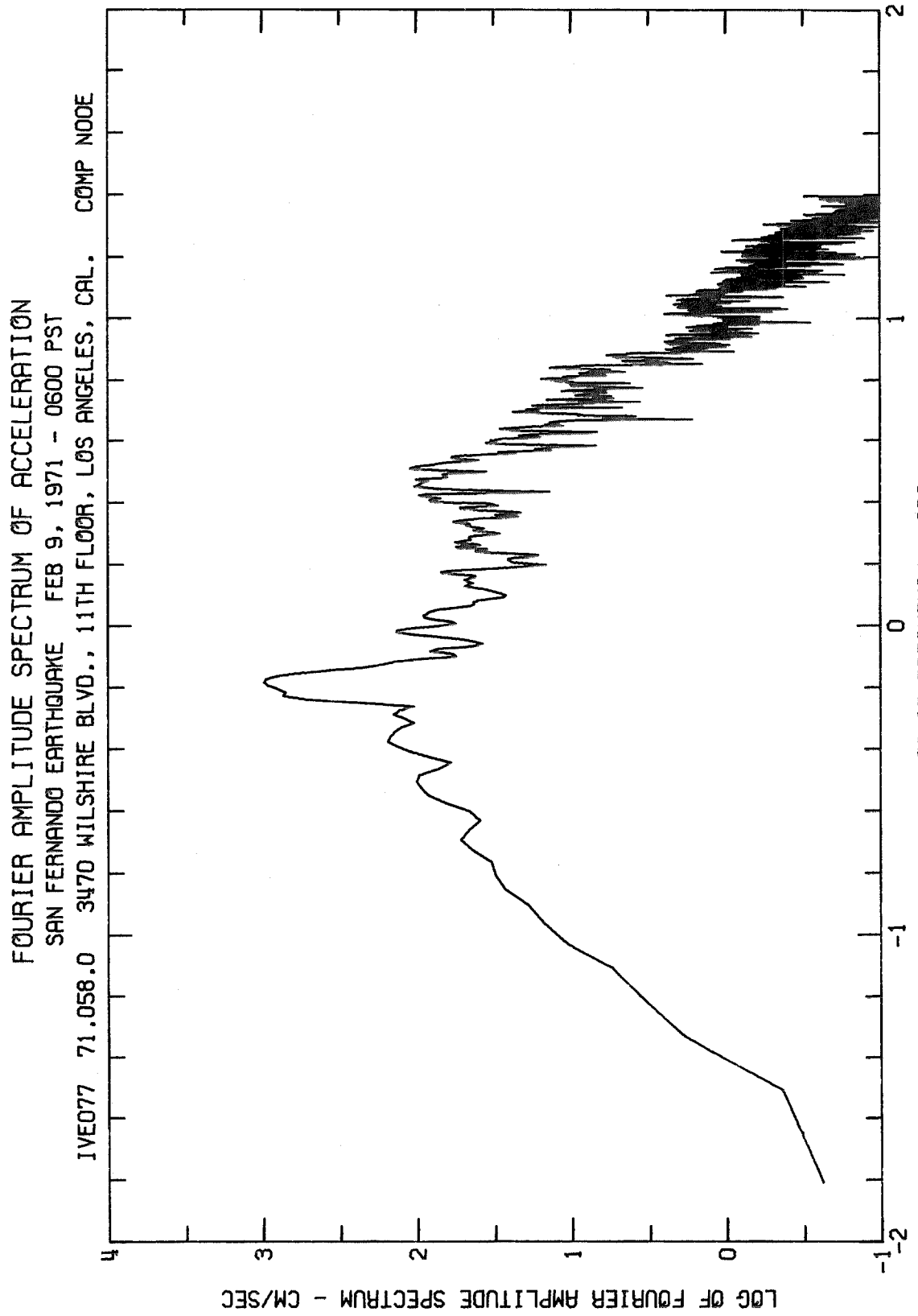
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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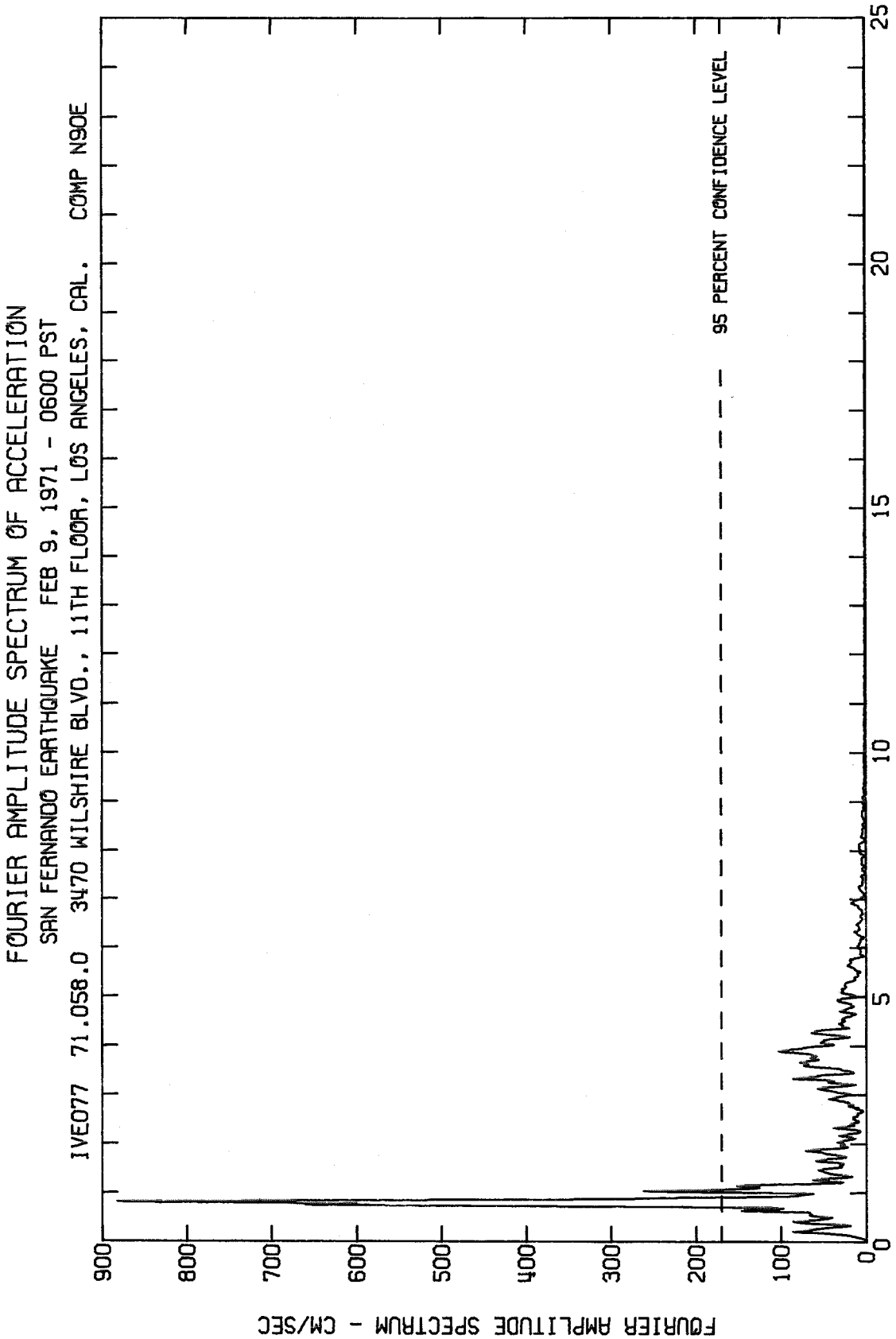
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95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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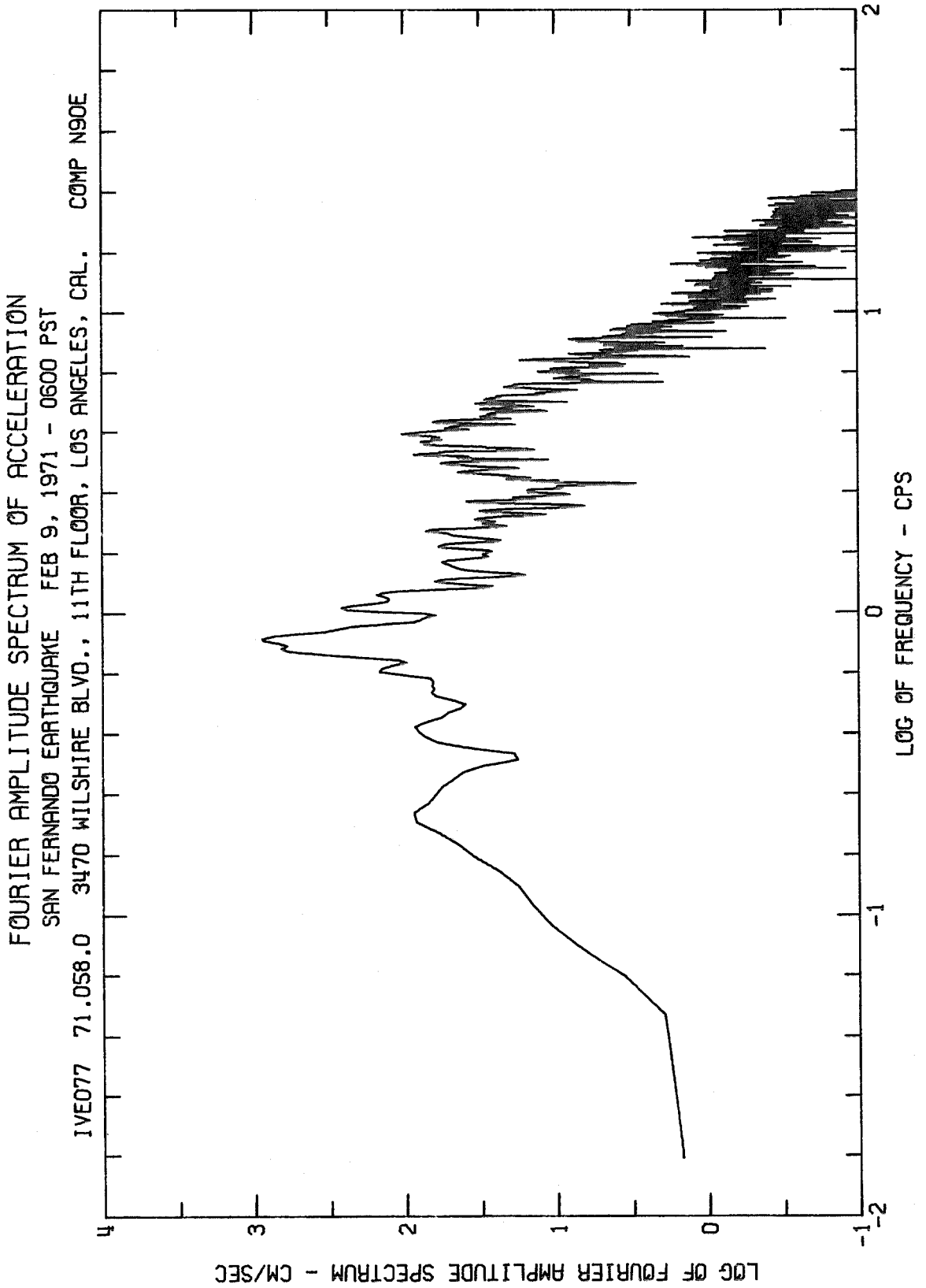
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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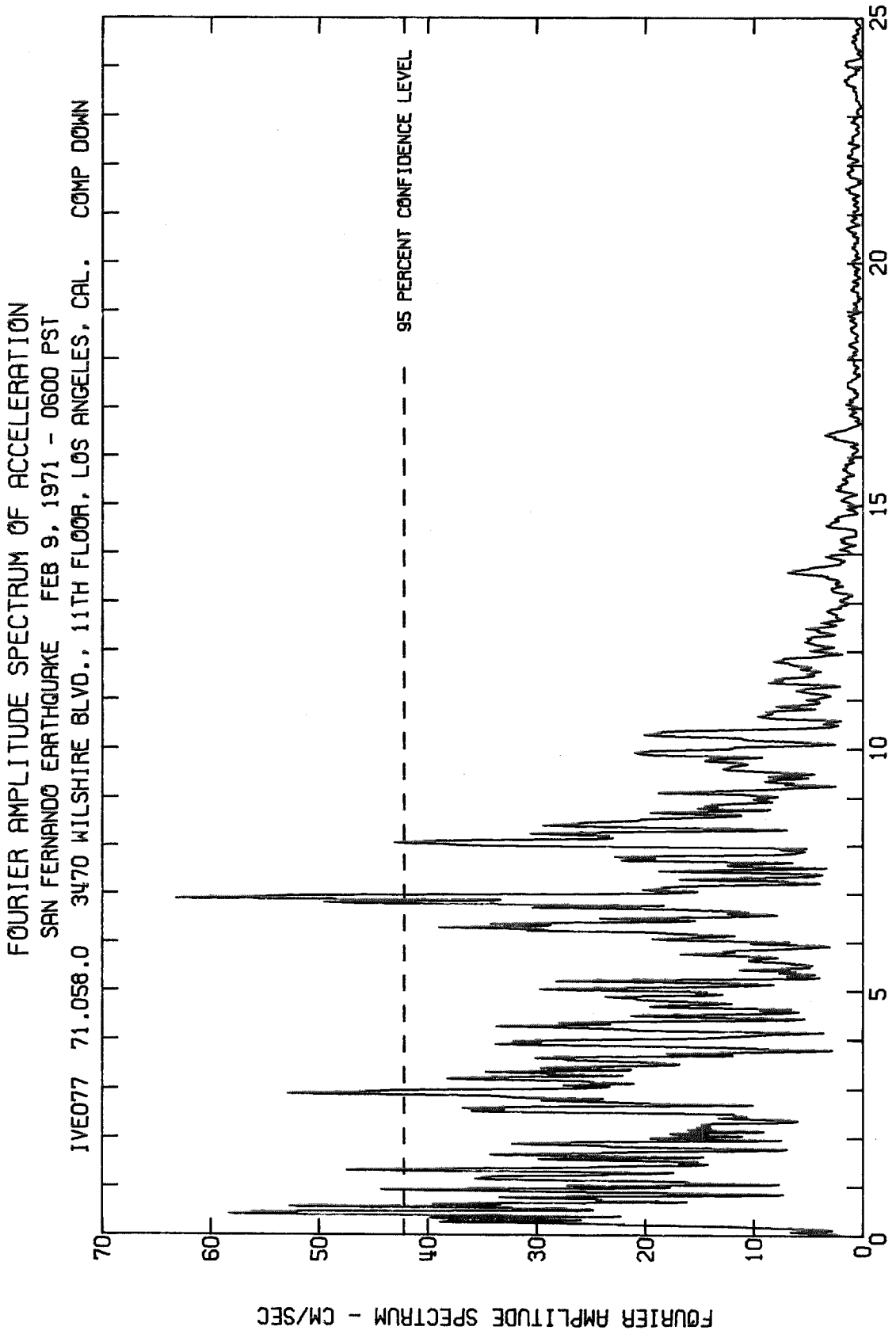
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95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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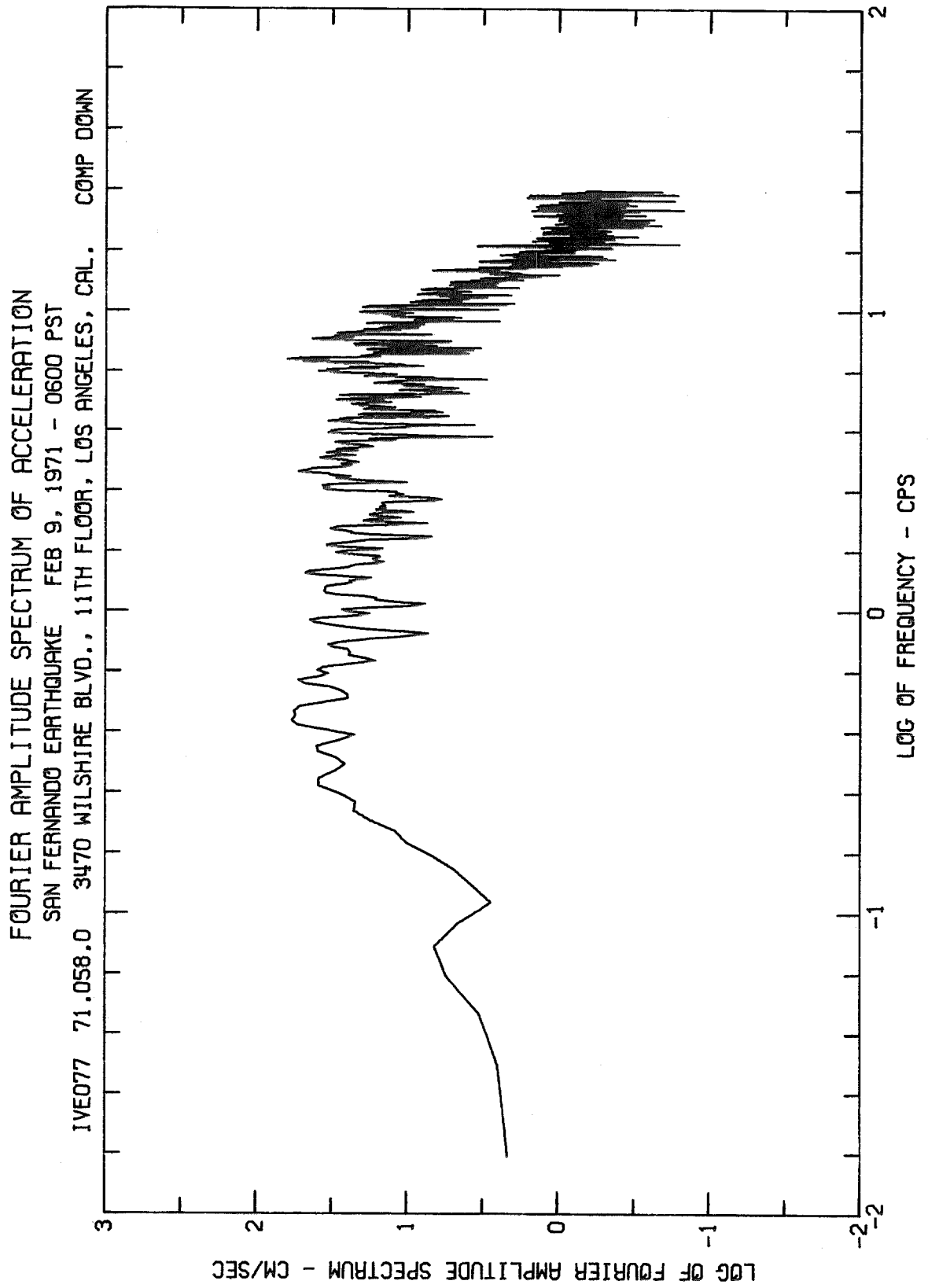
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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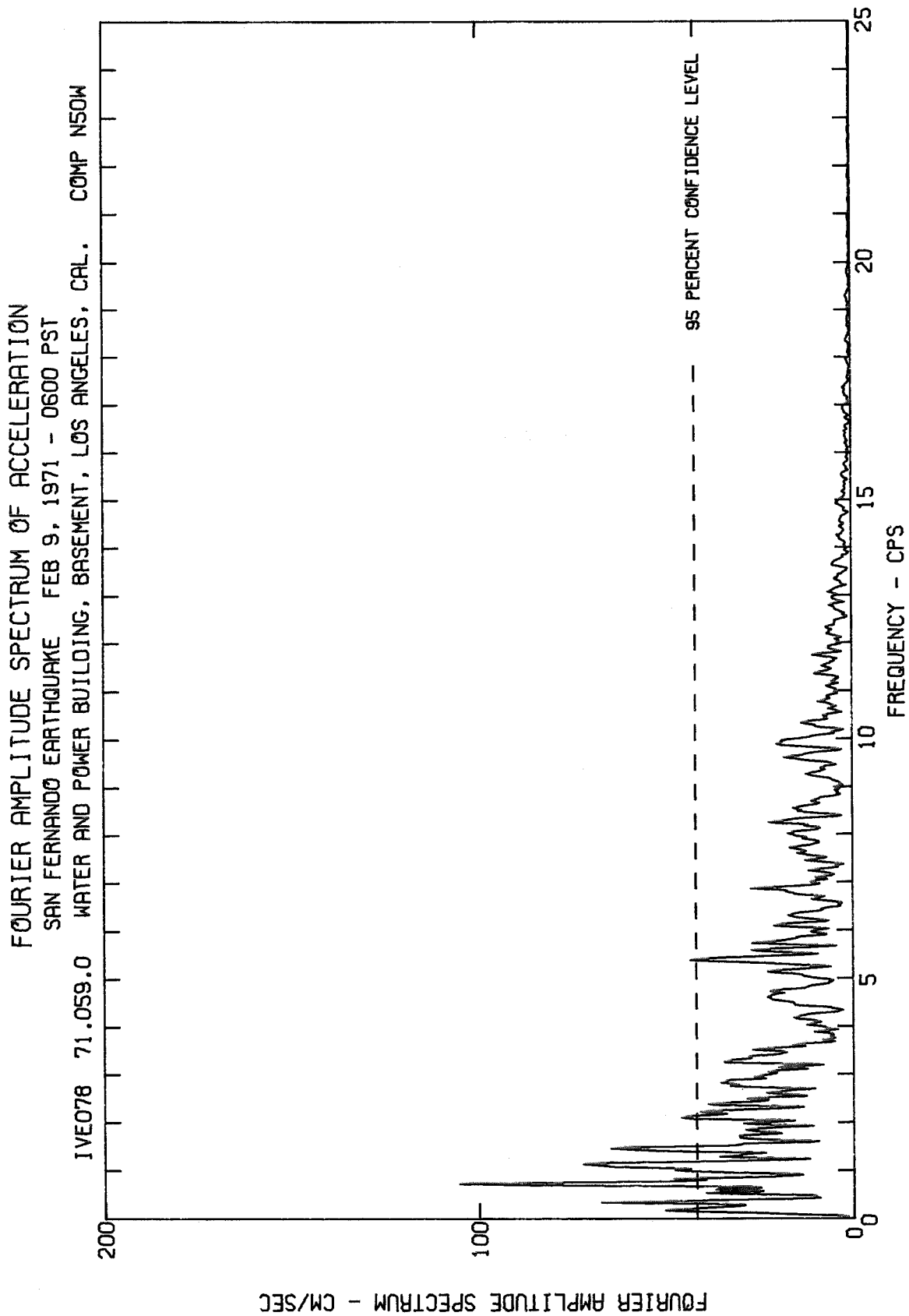
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IVE078 71.059.0 WATER AND POWER BUILDING, BASEMENT, LOS ANGELES, CAL. COMP N50W
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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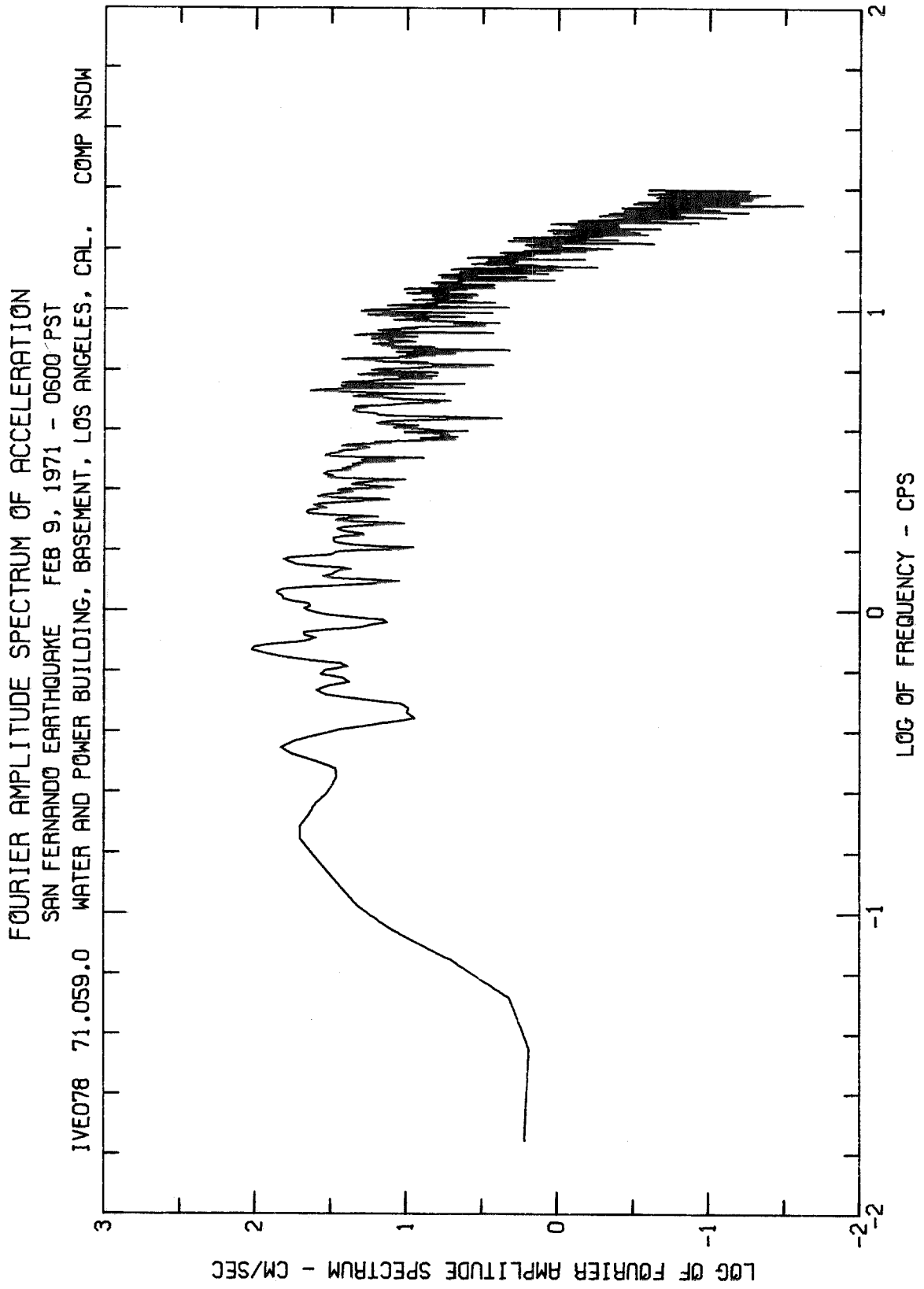
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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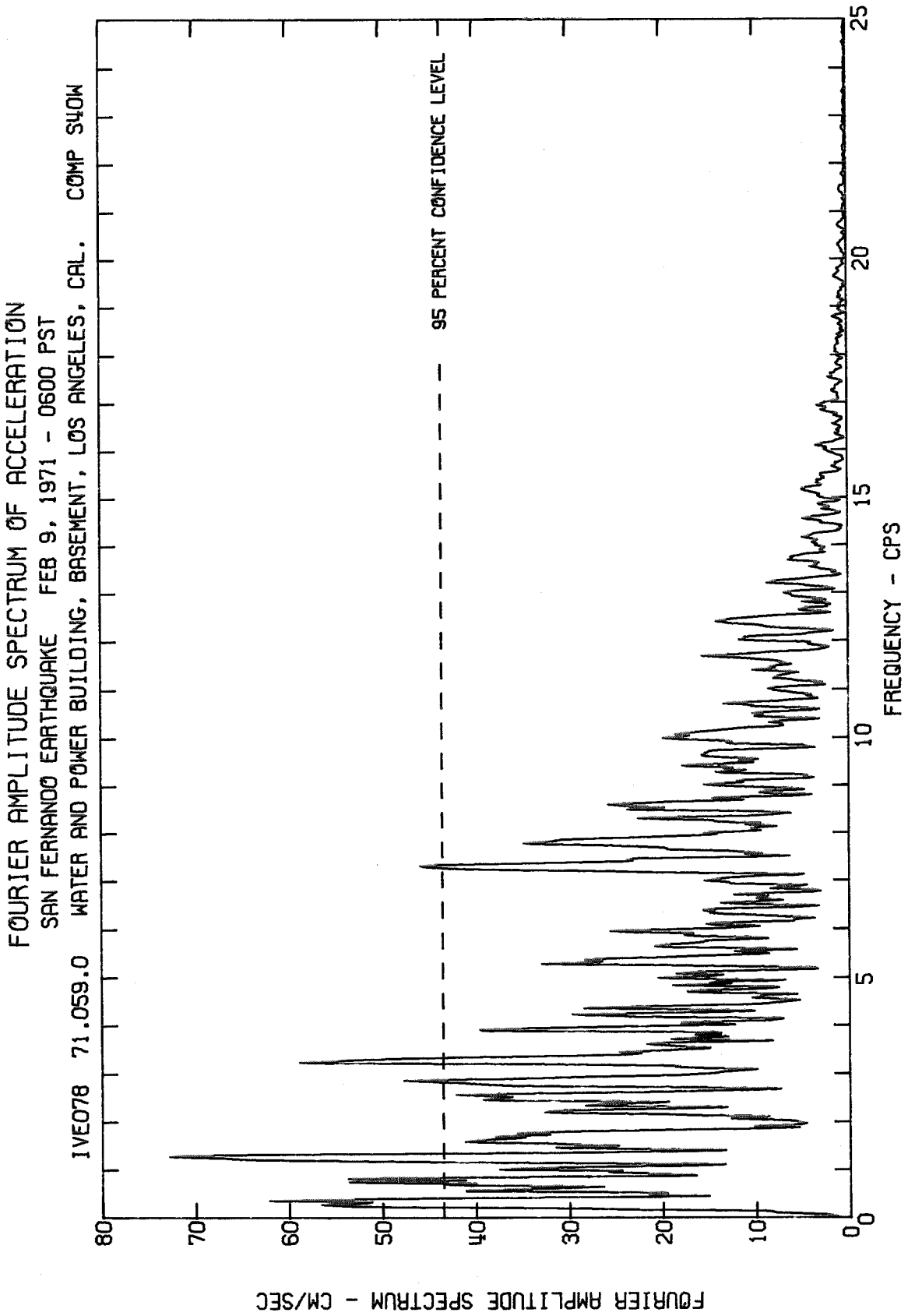
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
1VE078 71.059.0 WATER AND POWER BUILDING, BASEMENT, LOS ANGELES, CAL. COMP S40W
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
10
20
30
40
50
60
70
80
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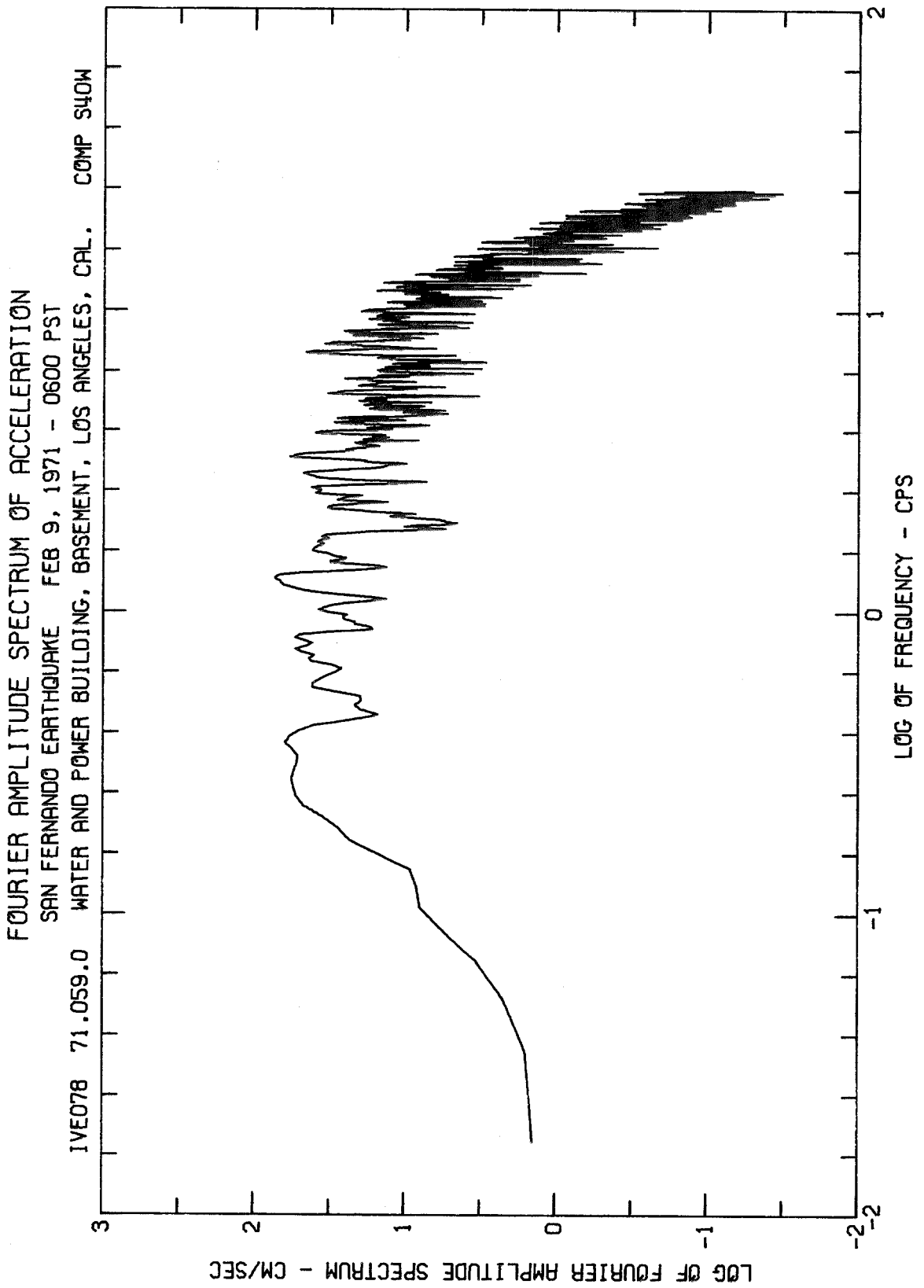
5
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE078 71.059.0 WATER AND POWER BUILDING, BASEMENT, LOS ANGELES, CAL. COMP S40W
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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1
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-1
-2
-2
-1
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1
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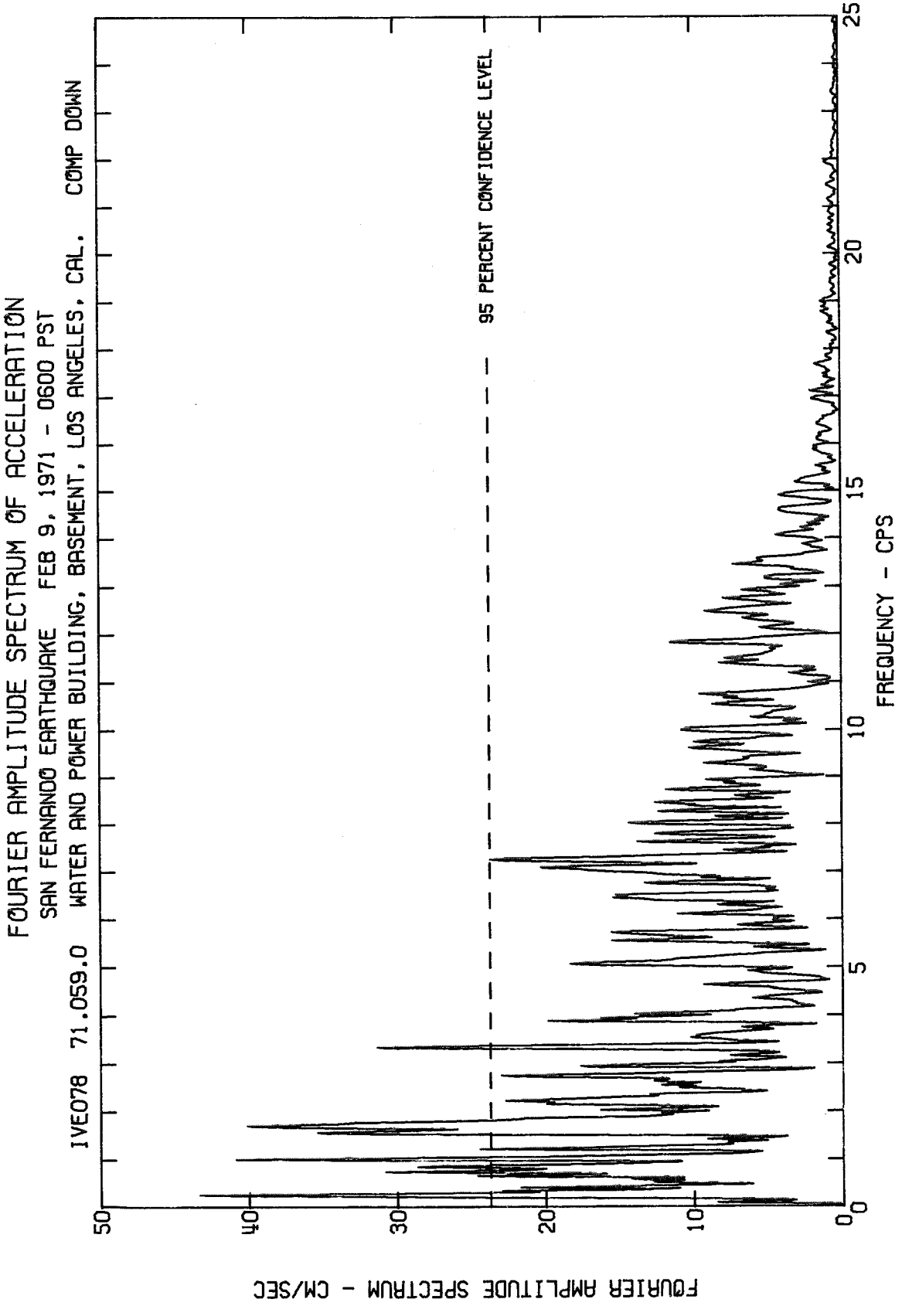
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE078 71.059.0 WATER AND POWER BUILDING, BASEMENT, LOS ANGELES, CAL. COMP DOWN
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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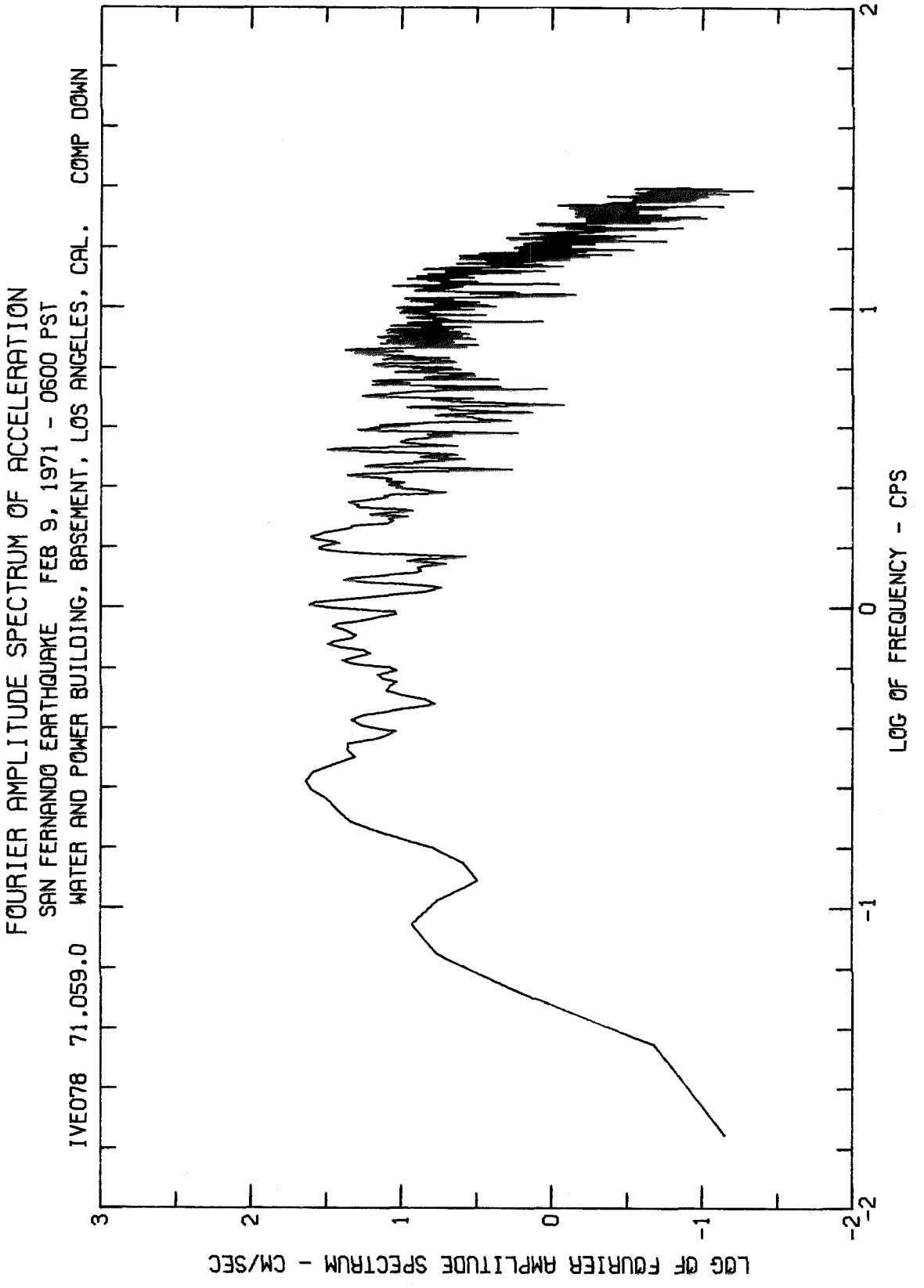
10
20
30
40
50
0
5
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE078 71.059.0 WATER AND POWER BUILDING, BASEMENT, LOS ANGELES, CAL. COMP DOWN
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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1
0
-1
-2
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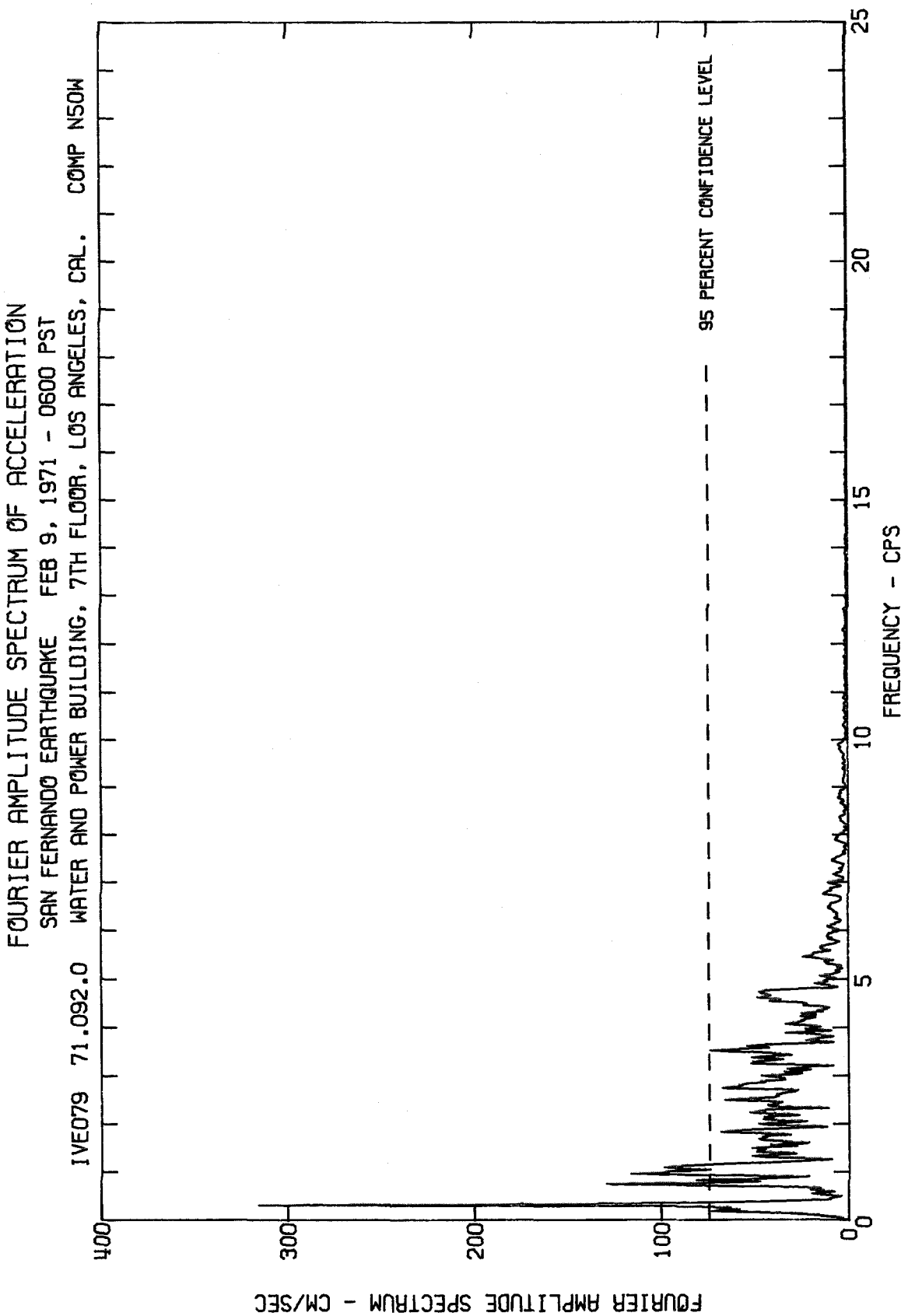
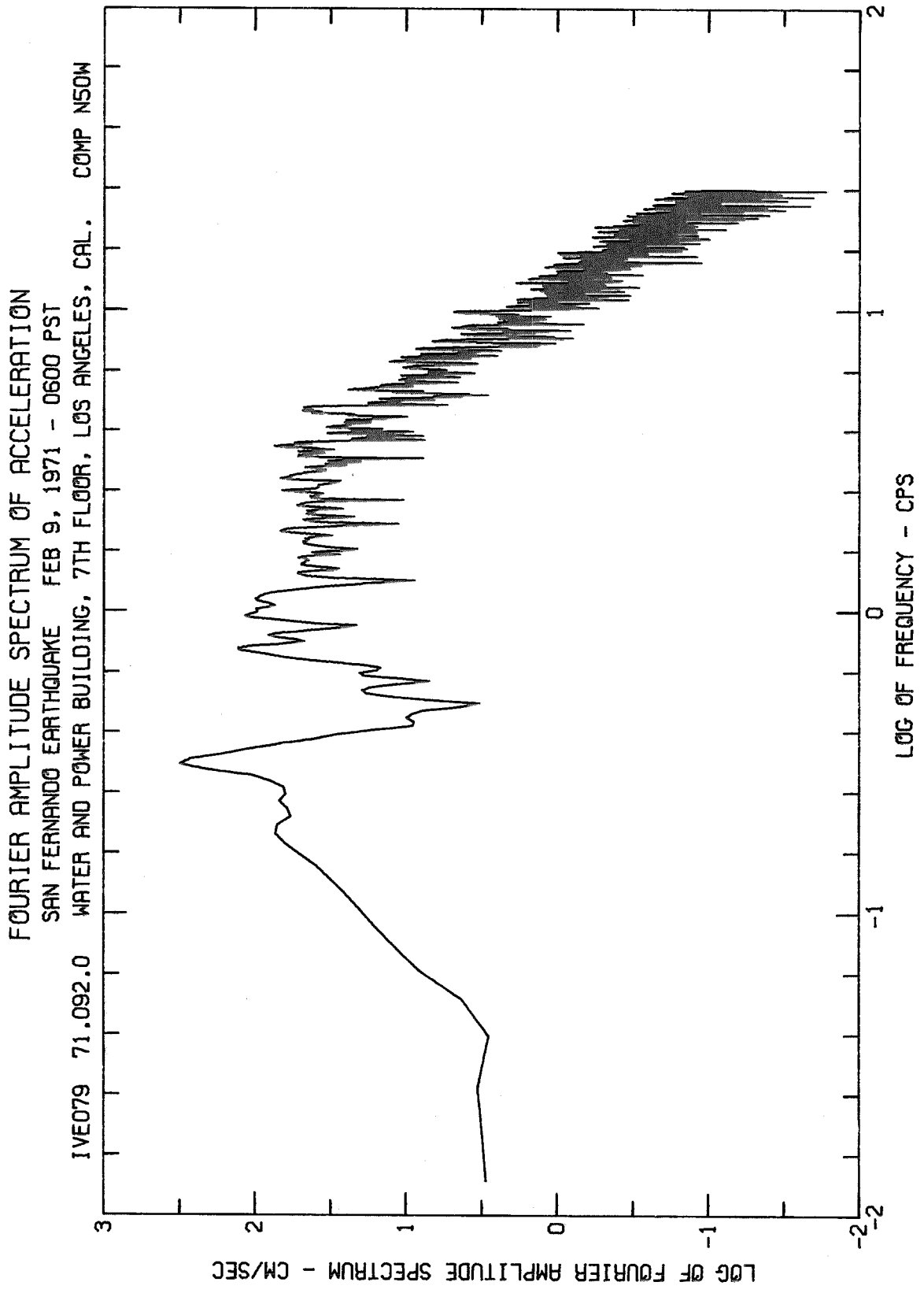
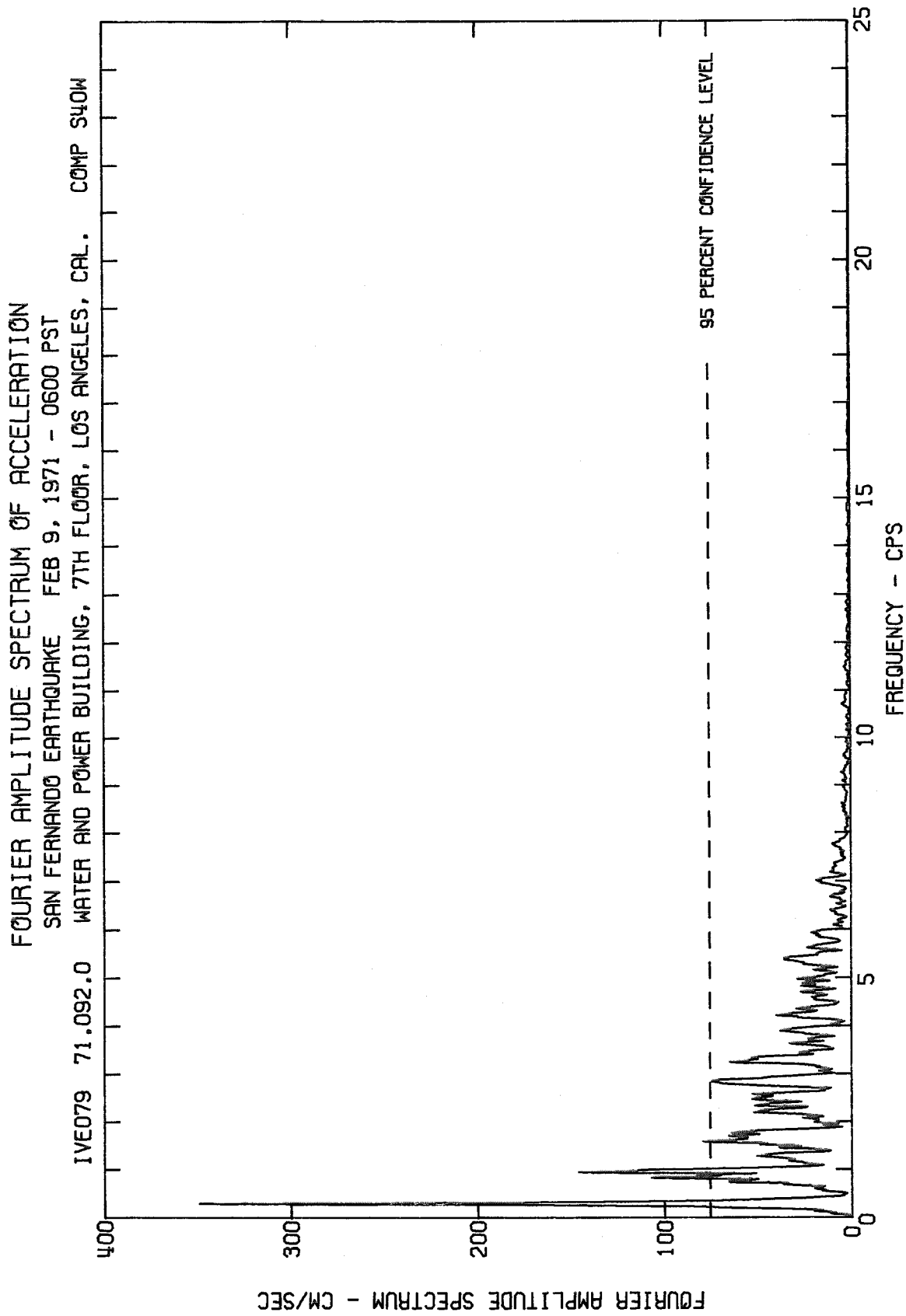
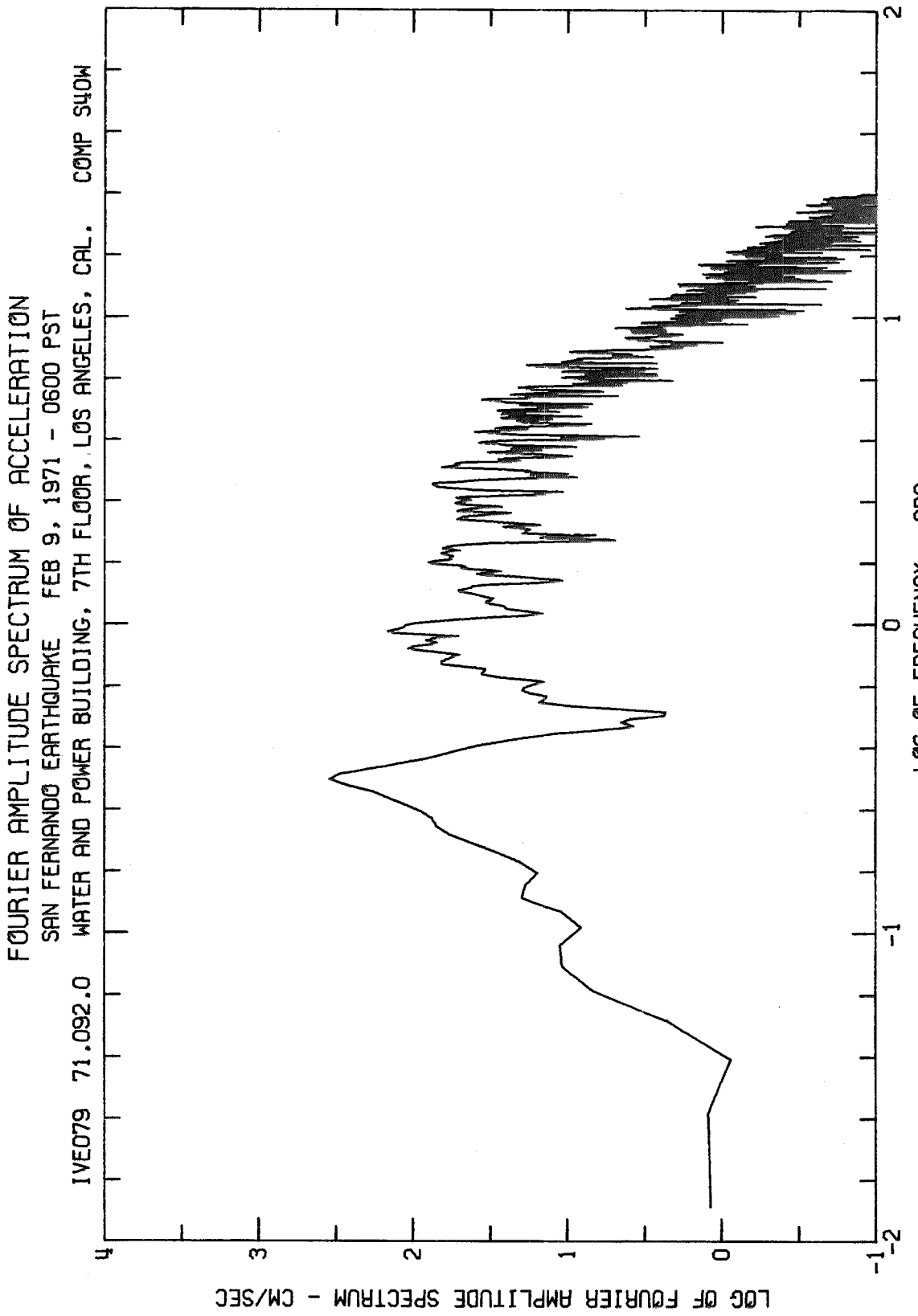
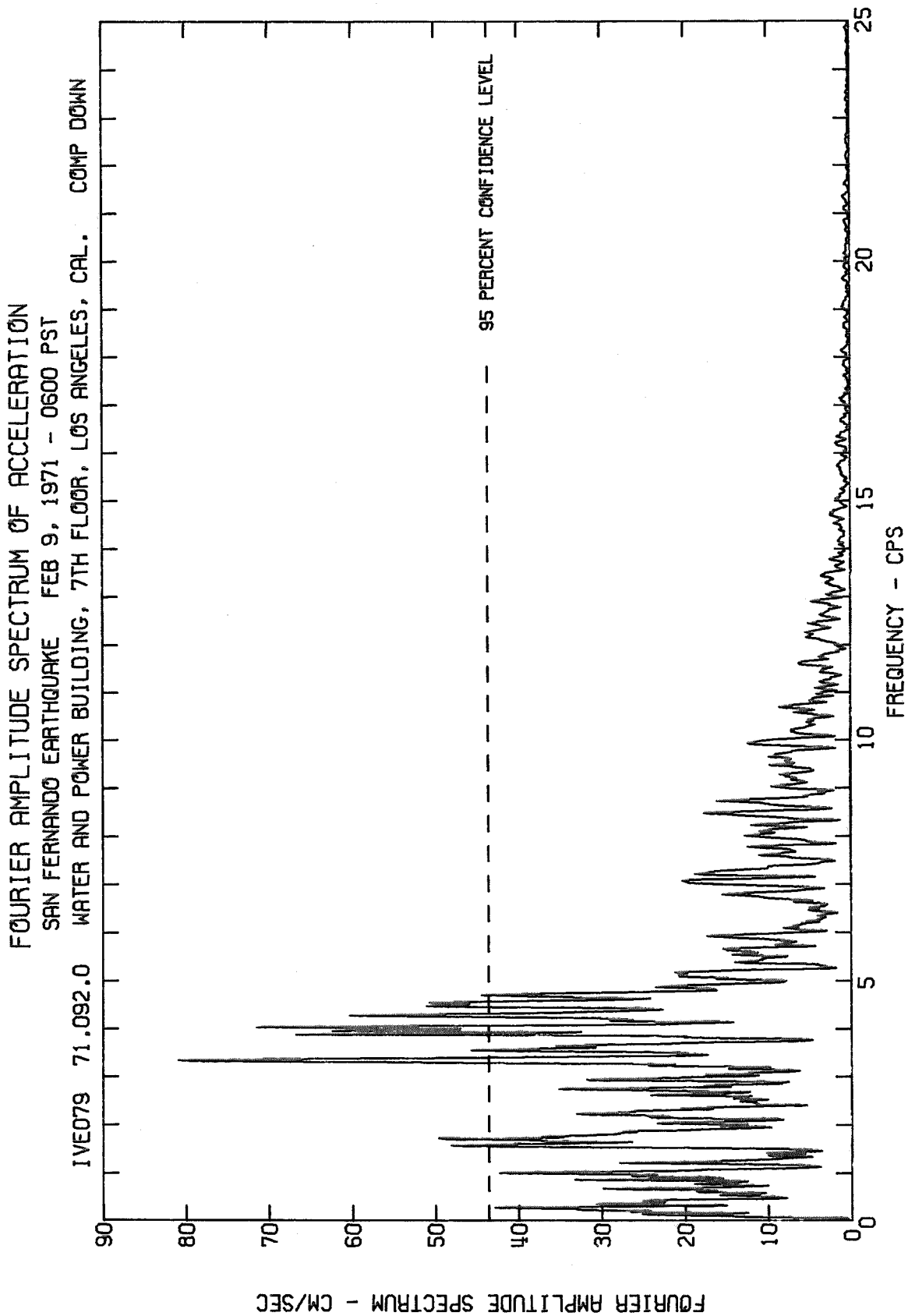
-1
0
1
2


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE079 71.092.0 WATER AND POWER BUILDING, 7TH FLOOR, LOS ANGELES, CAL. COMP N50W
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
100
200
300
400
5
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE079 71.092.0 WATER AND POWER BUILDING, 7TH FLOOR, LOS ANGELES, CAL. COMP N50W
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
3
2
1
0
-1
-2
-2
-1
0
1
2


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE079 71.092.0 WATER AND POWER BUILDING, 7TH FLOOR, LOS ANGELES, CAL. COMP S40W
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
100
200
300
400
0
5
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE079 71.092.0 WATER AND POWER BUILDING, 7TH FLOOR, LOS ANGELES, CAL. COMP S40W
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
4
3
2
1
0
-1
-2
-1
0
1
2


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE079 71.092.0 WATER AND POWER BUILDING, 7TH FLOOR, LOS ANGELES, CAL. COMP DOWN
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
10
20
30
40
50
60
70
80
90
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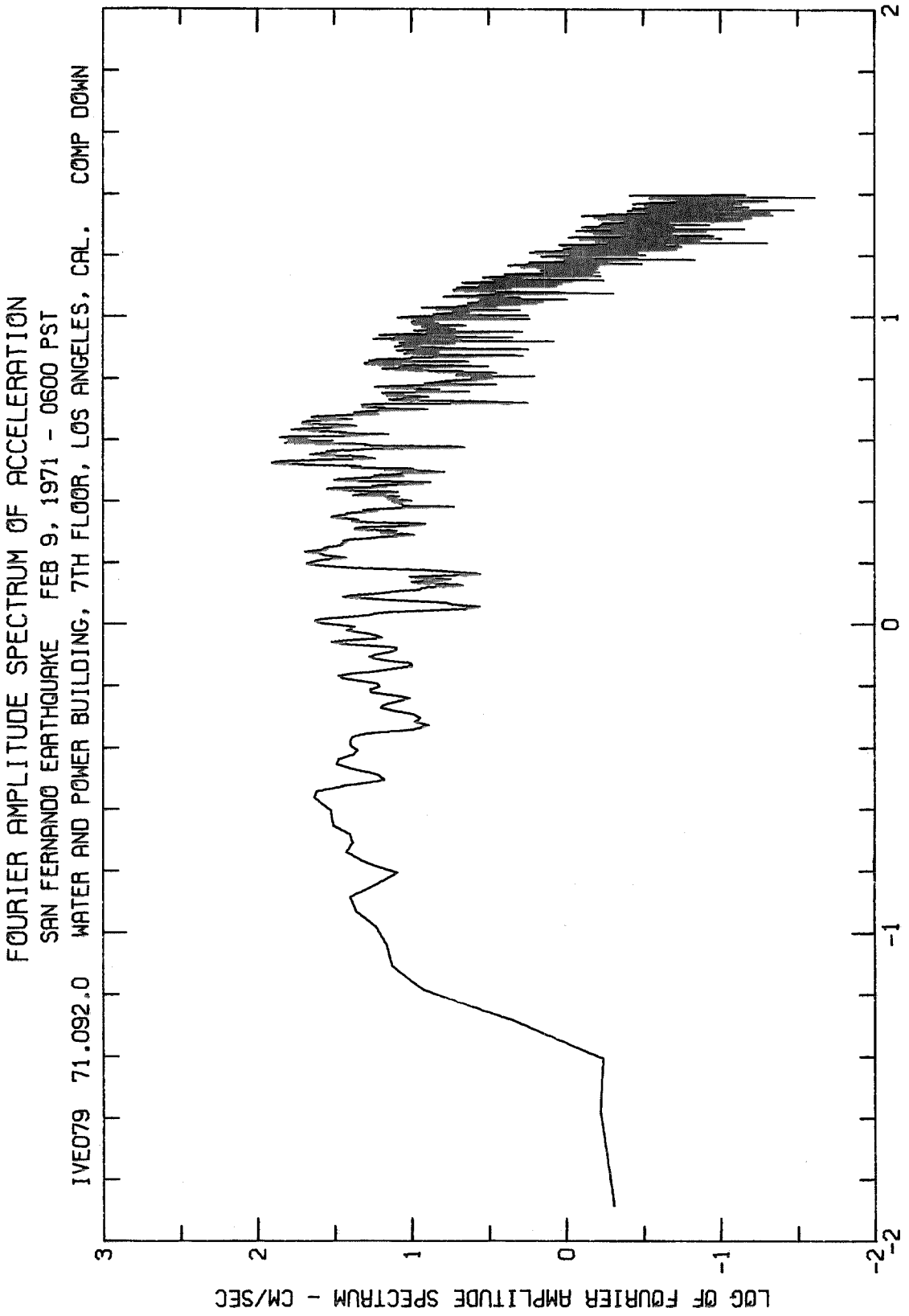
5
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE079 71.092.0 WATER AND POWER BUILDING, 7TH FLOOR, LOS ANGELES, CAL. COMP DOWN
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
3
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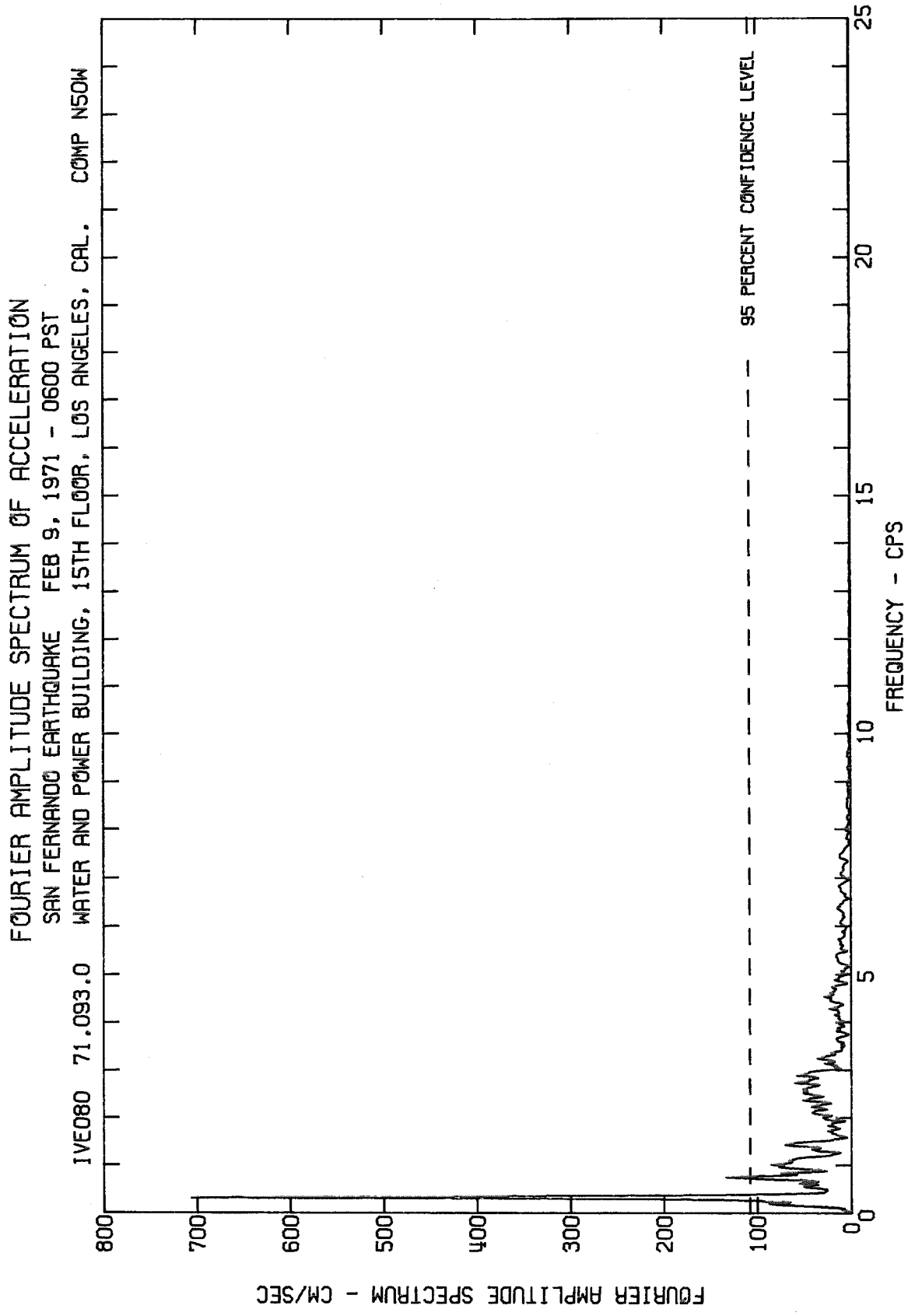
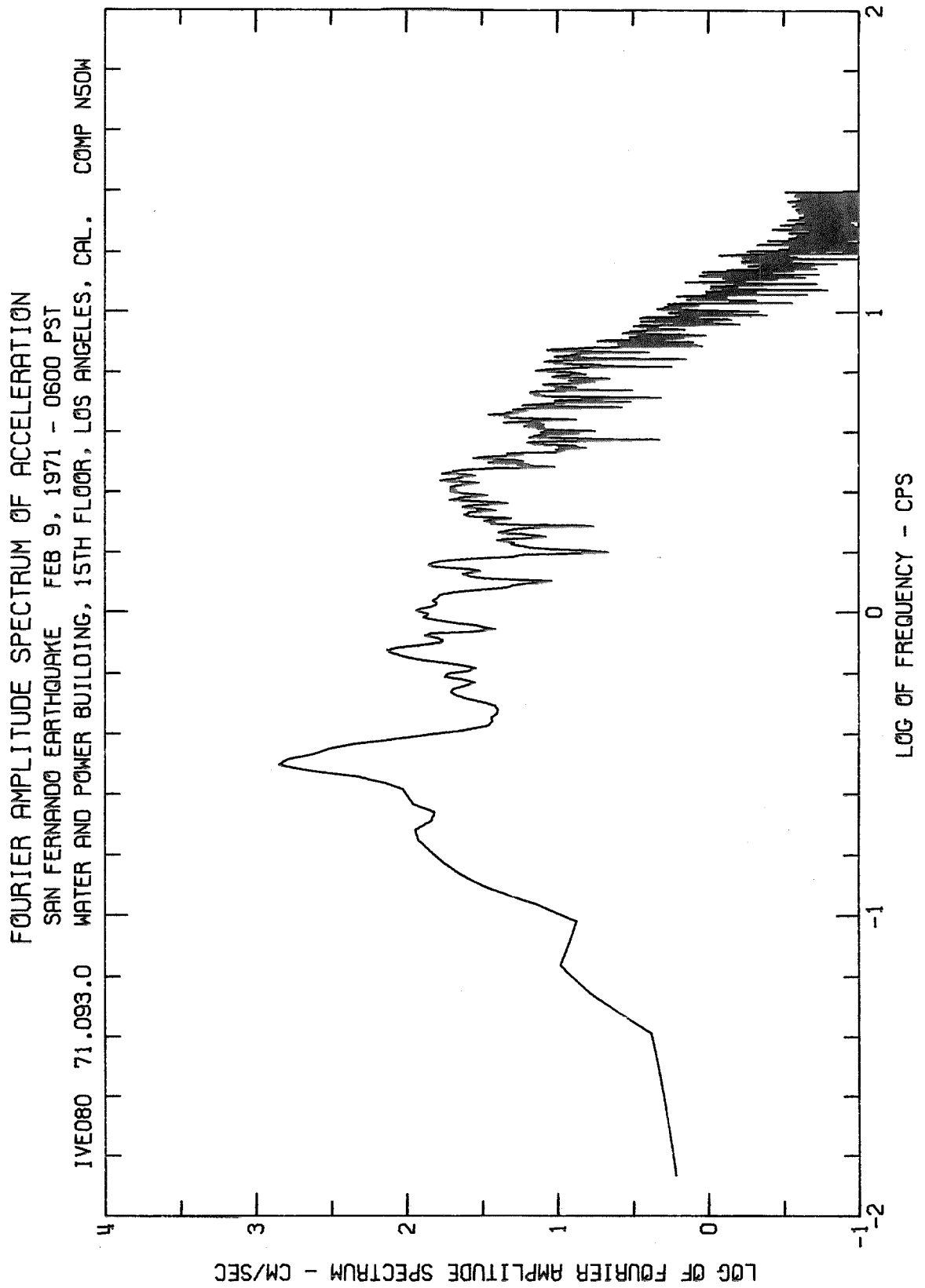
1
0
-1
-2
-2
-1
0
1
2


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE080 71.093.0 WATER AND POWER BUILDING, 15TH FLOOR, LOS ANGELES, CAL. COMP N50W
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
100
200
300
400
500
600
700
800
0
5
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE080 71.093.0 WATER AND POWER BUILDING, 15TH FLOOR, LOS ANGELES, CAL. COMP N50W
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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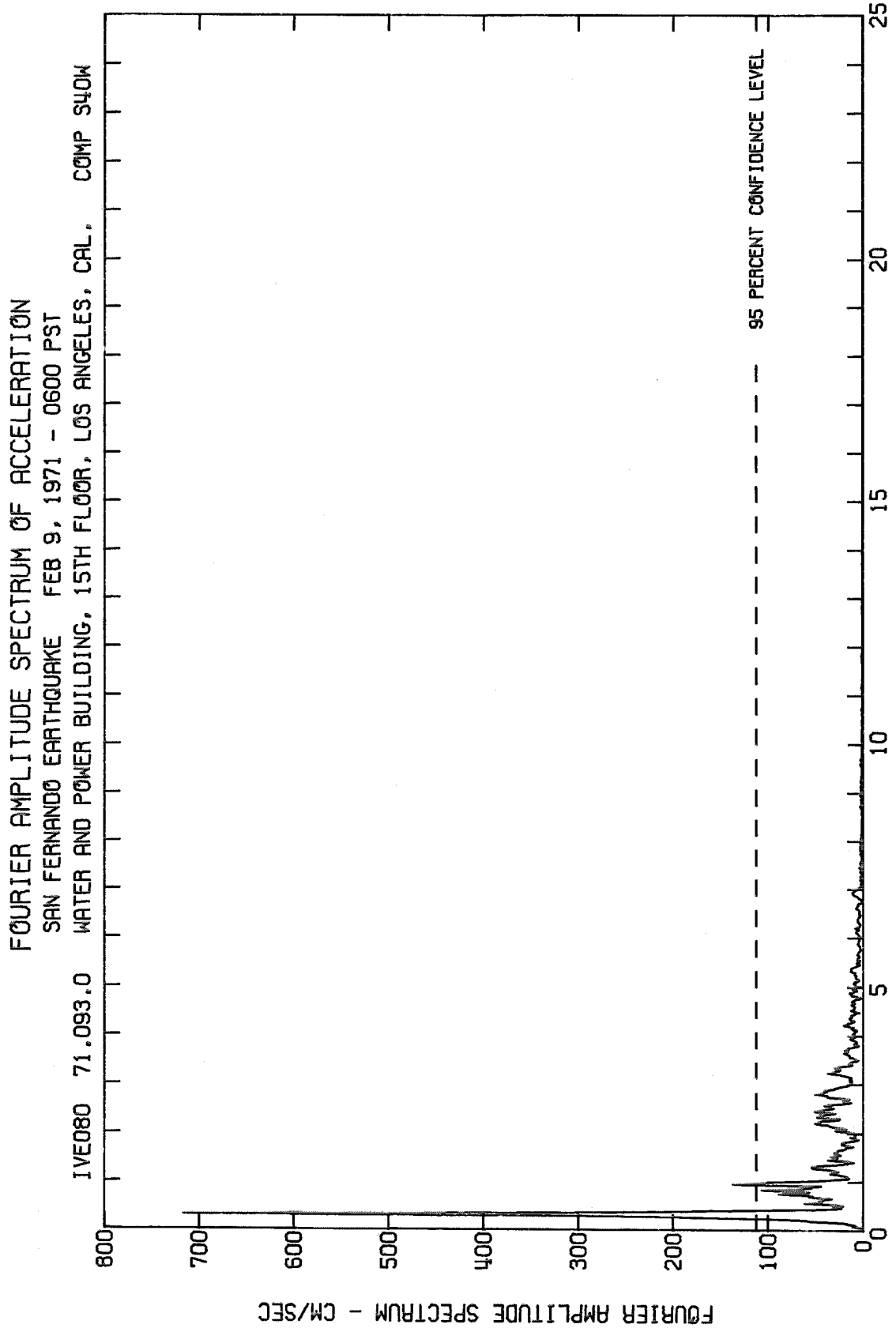
3
2
1
0
-1
-2
2
1
0
-1


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE080 71.093.0 WATER AND POWER BUILDING, 15TH FLOOR, LOS ANGELES, CAL. COMP SLOW
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
100
200
300
400
500
600
700
800
0
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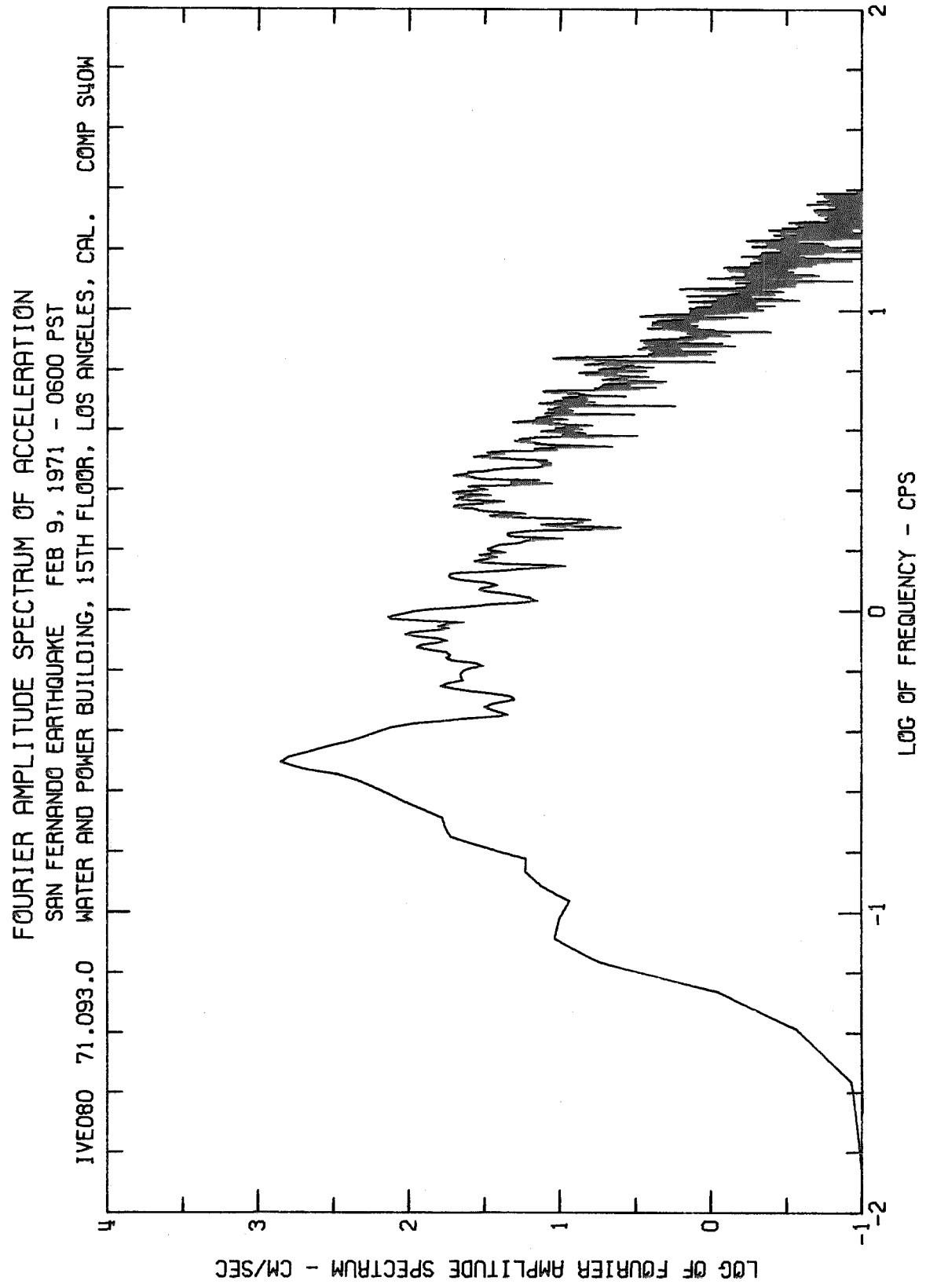
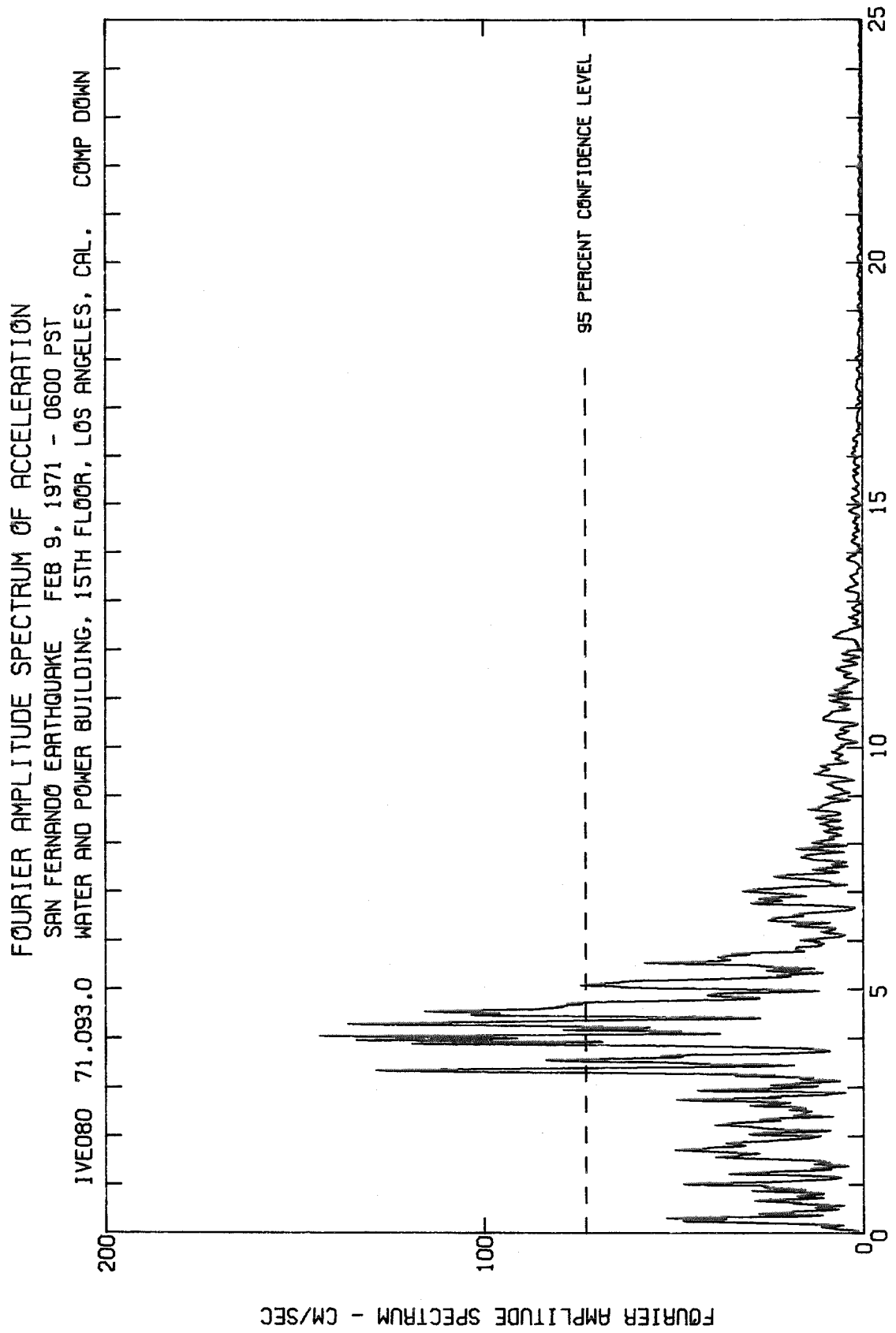
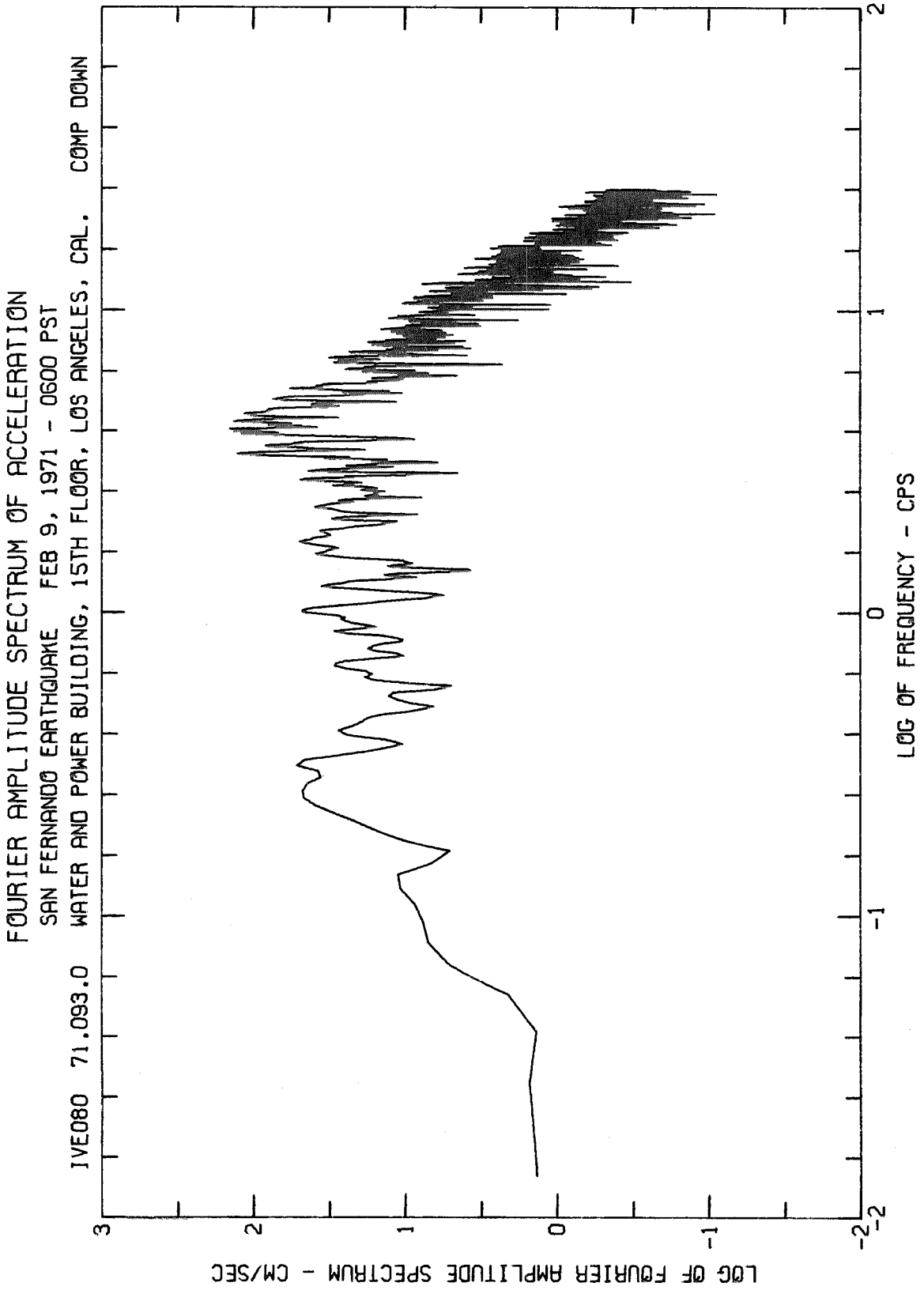
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE080 71.093.0 WATER AND POWER BUILDING, 15TH FLOOR, LOS ANGELES, CAL. COMP S40W
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
4
3
2
1
0
-1
-2
-1
0
1
2


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
1VE080 71.093.0 WATER AND POWER BUILDING, 15TH FLOOR, LOS ANGELES, CAL. COMP DOWN
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
100
200
5
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE080 71.093.0 WATER AND POWER BUILDING, 15TH FLOOR, LOS ANGELES, CAL. COMP DOWN
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
3
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0
-1
-2
2
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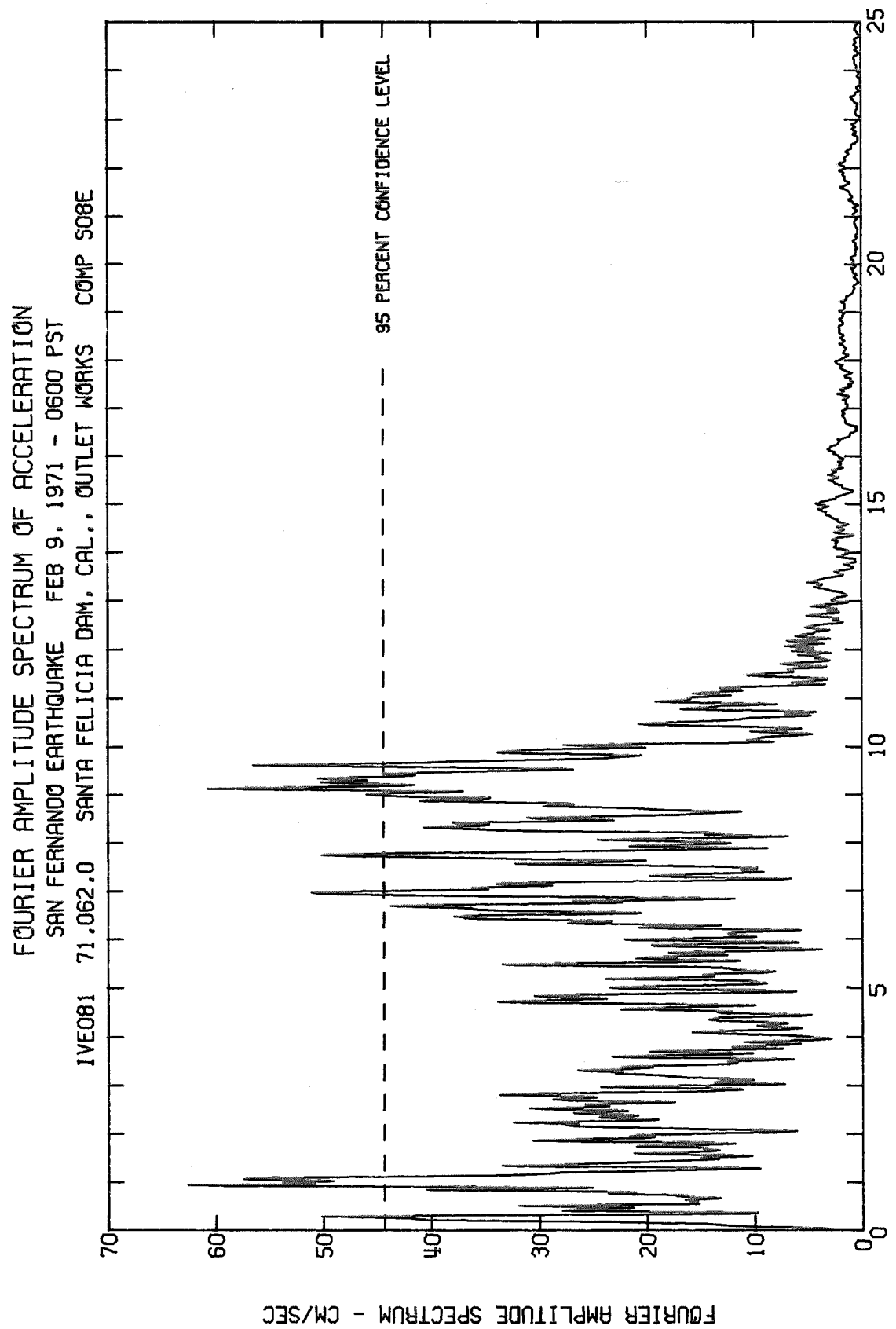
0
-1
-2


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE081 71.062.0 SANTA FELICIA DAM, CAL., OUTLET WORKS COMP S08E
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
10
20
30
40
50
60
70
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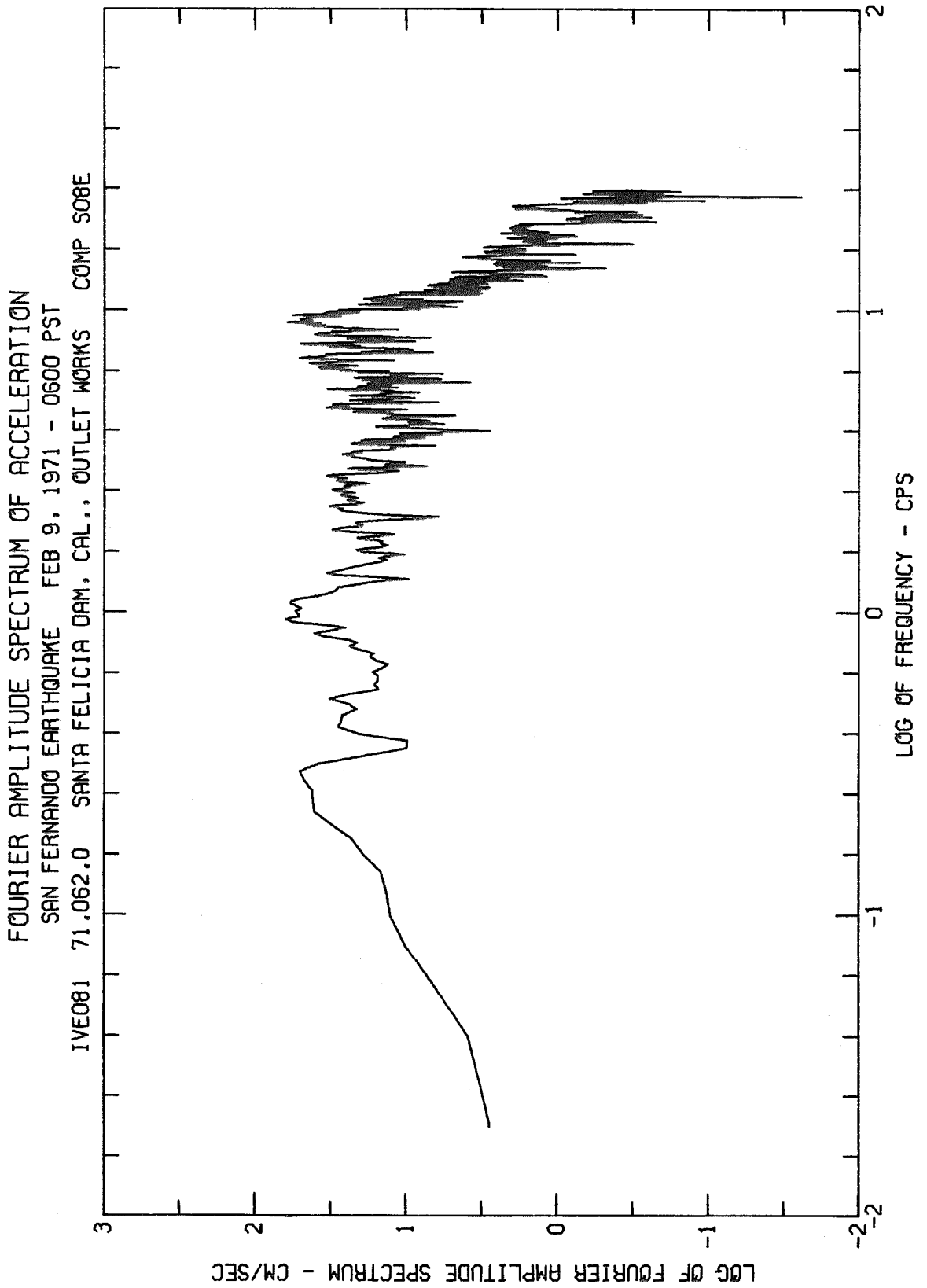
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE081 71.062.0 SANTA FELICIA DAM, CAL., OUTLET WORKS COMP S08E
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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-1
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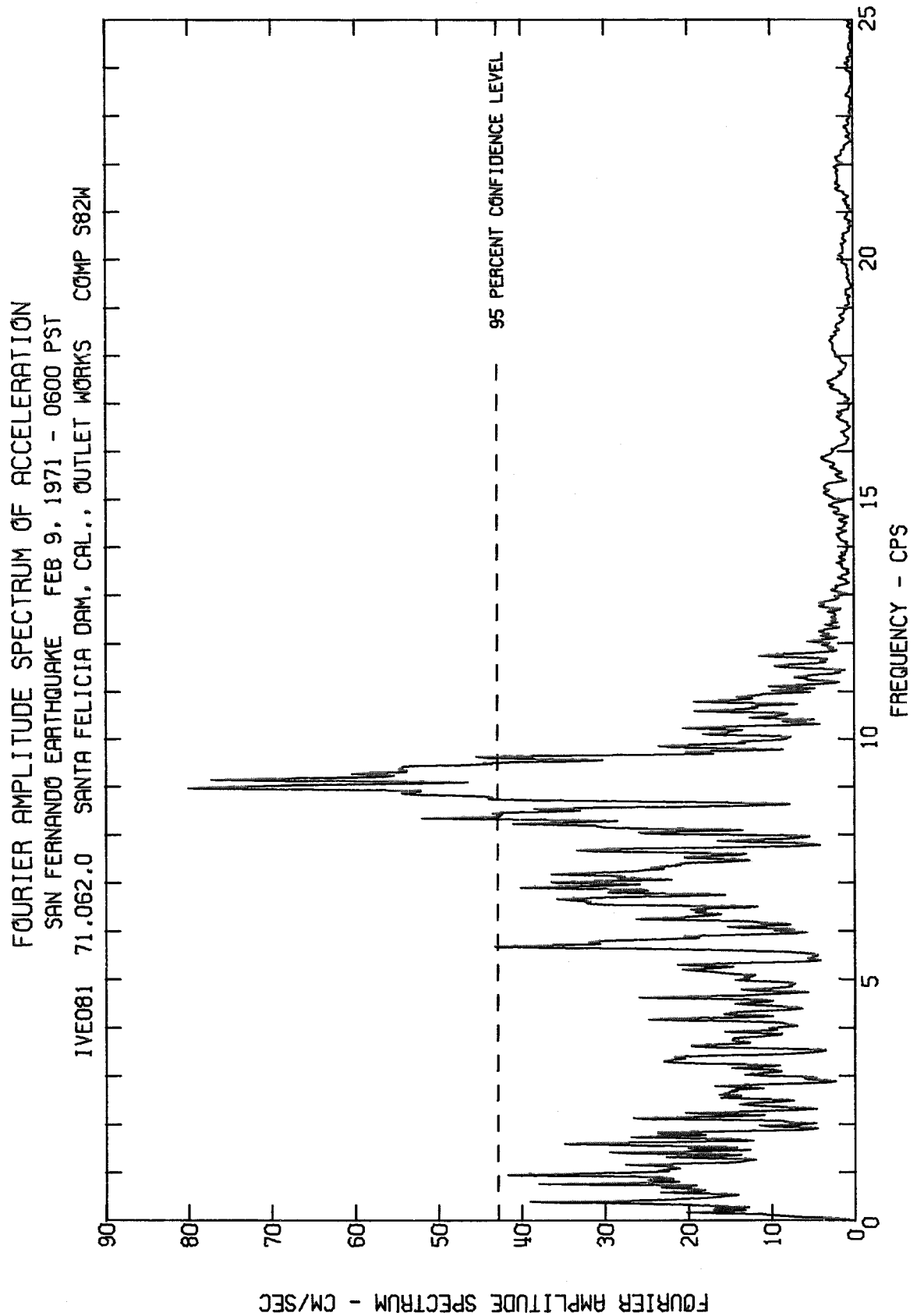
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE081 71.062.0 SANTA FELICIA DAM, CAL., OUTLET WORKS COMP S82W
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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40
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80
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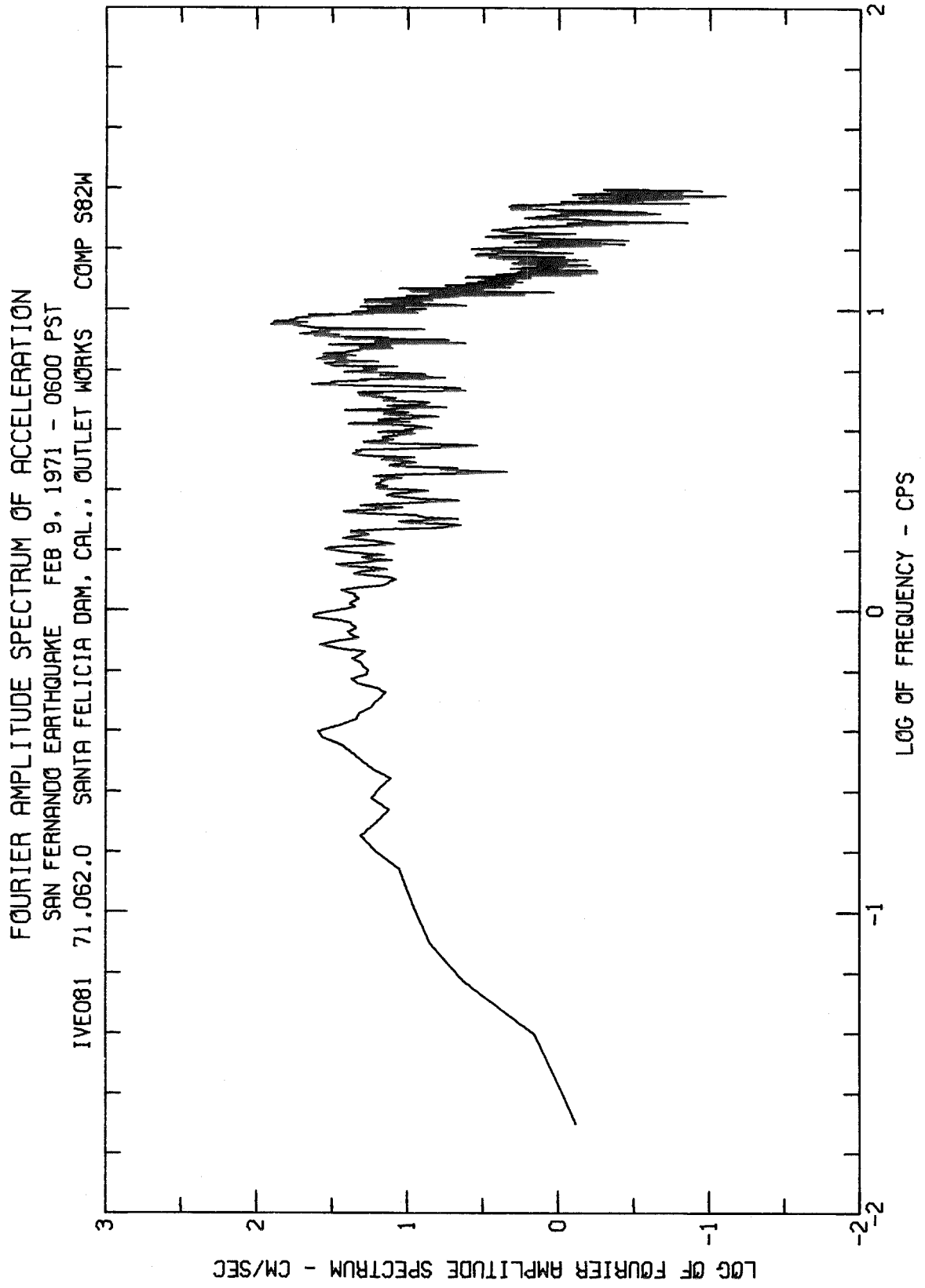
FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE081 71.062.0 SANTA FELICIA DAM, CAL., OUTLET WORKS COMP S82W
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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2
1
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-1
-2
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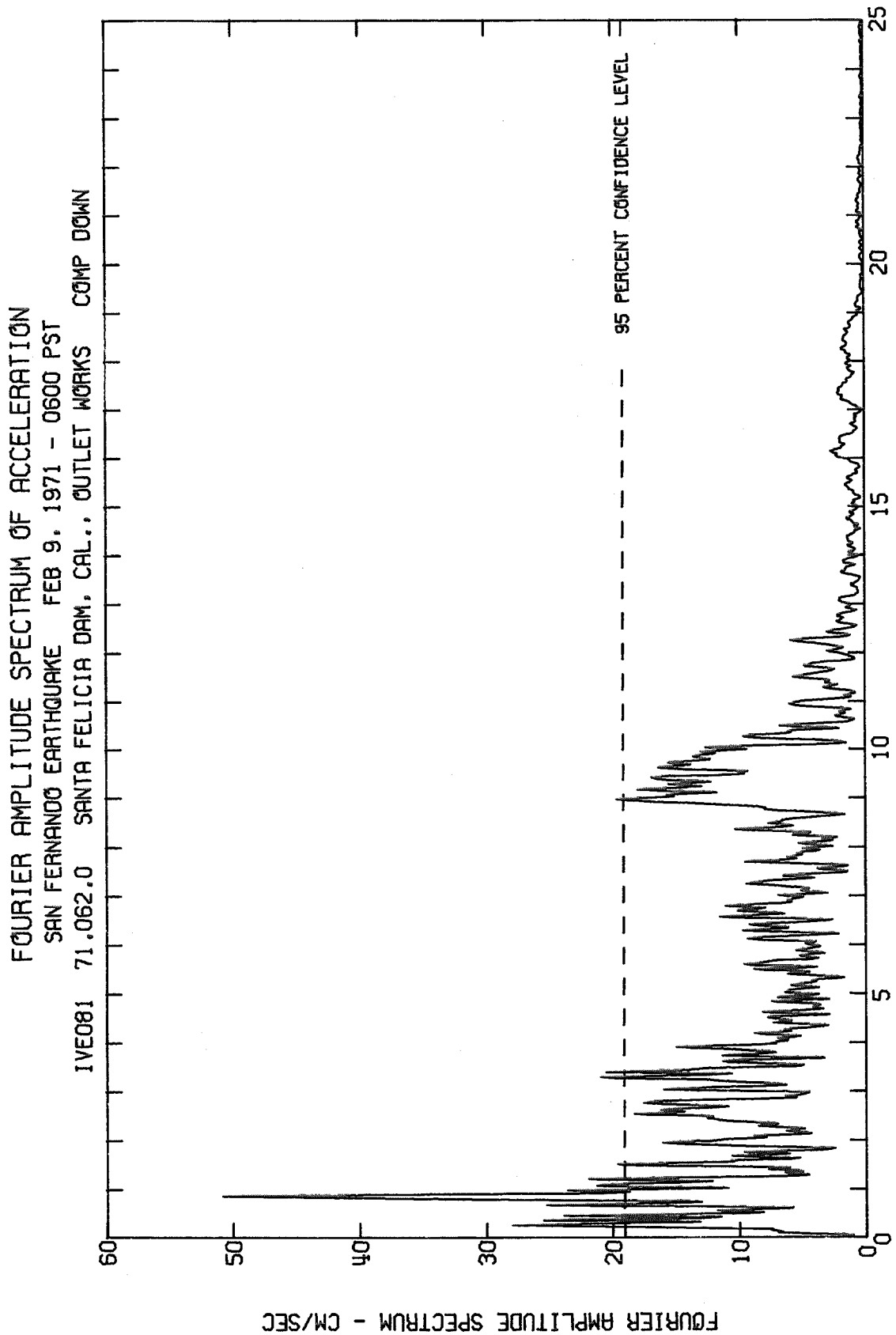
-2


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE081 71.062.0 SANTA FELICIA DAM, CAL., OUTLET WORKS COMP DOWN
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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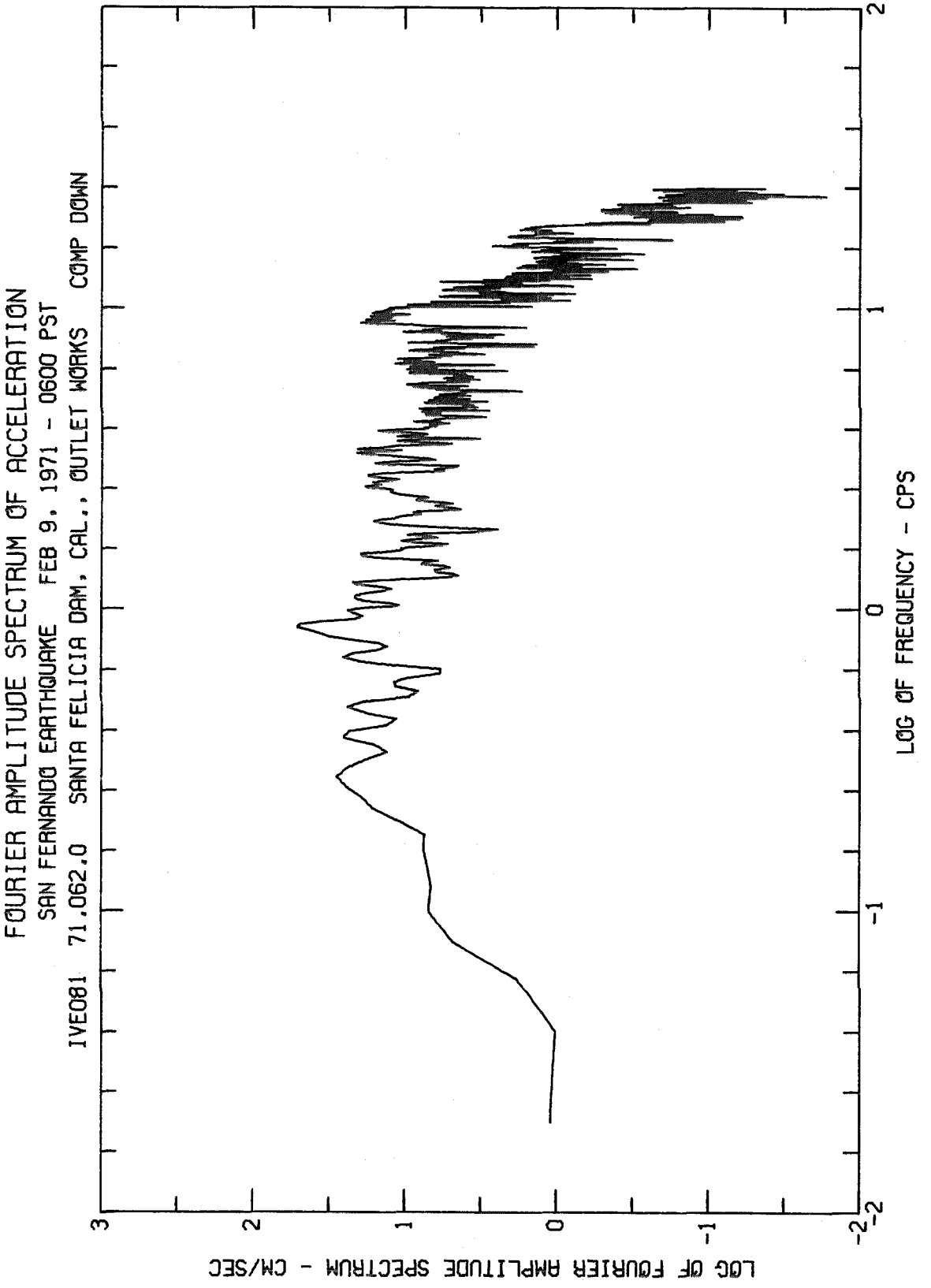
10
20
30
40
50
60
0
5
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE081 71.062.0 SANTA FELICIA DAM, CAL., OUTLET WORKS COMP DOWN
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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1
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-1
-2
-2
-1
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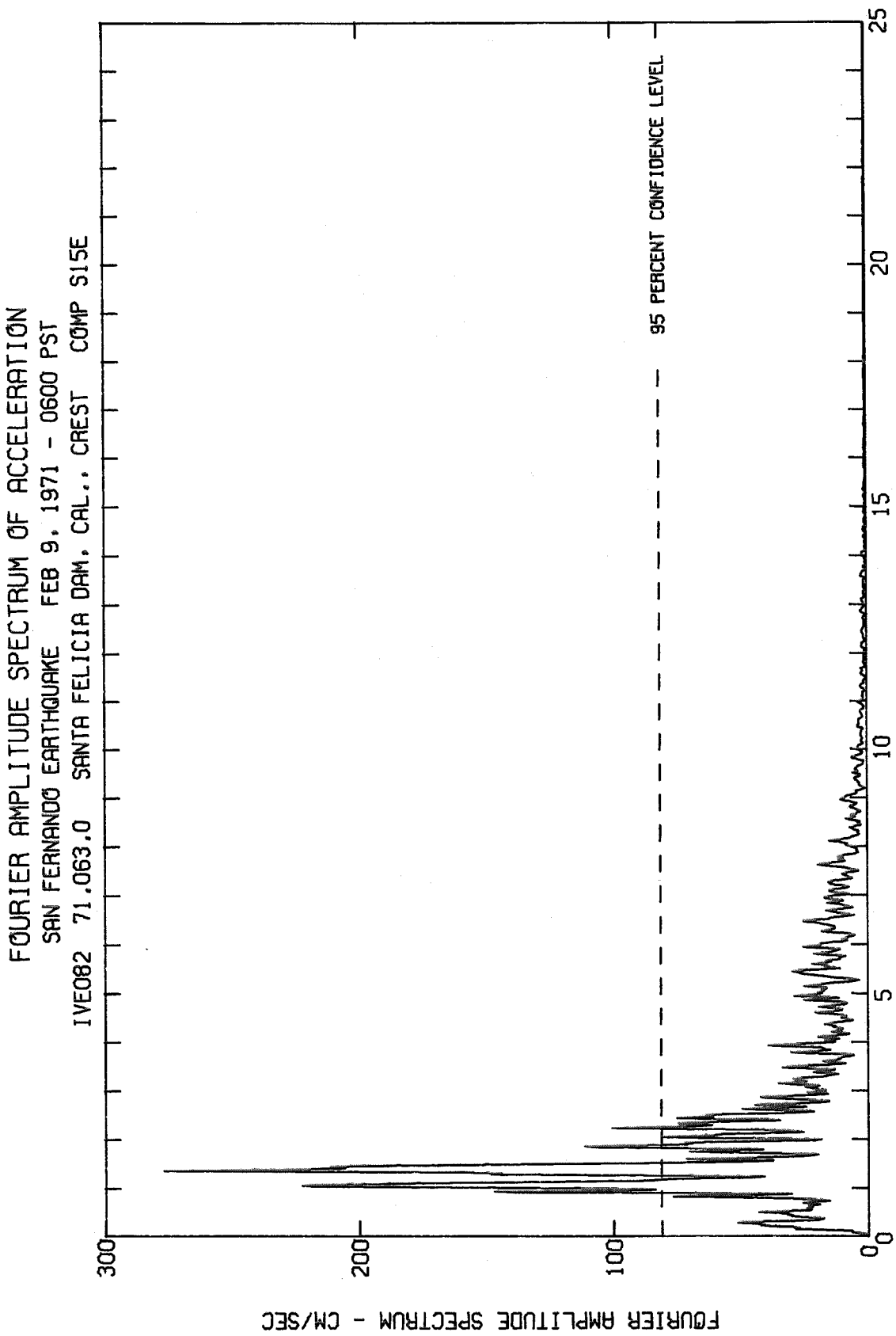
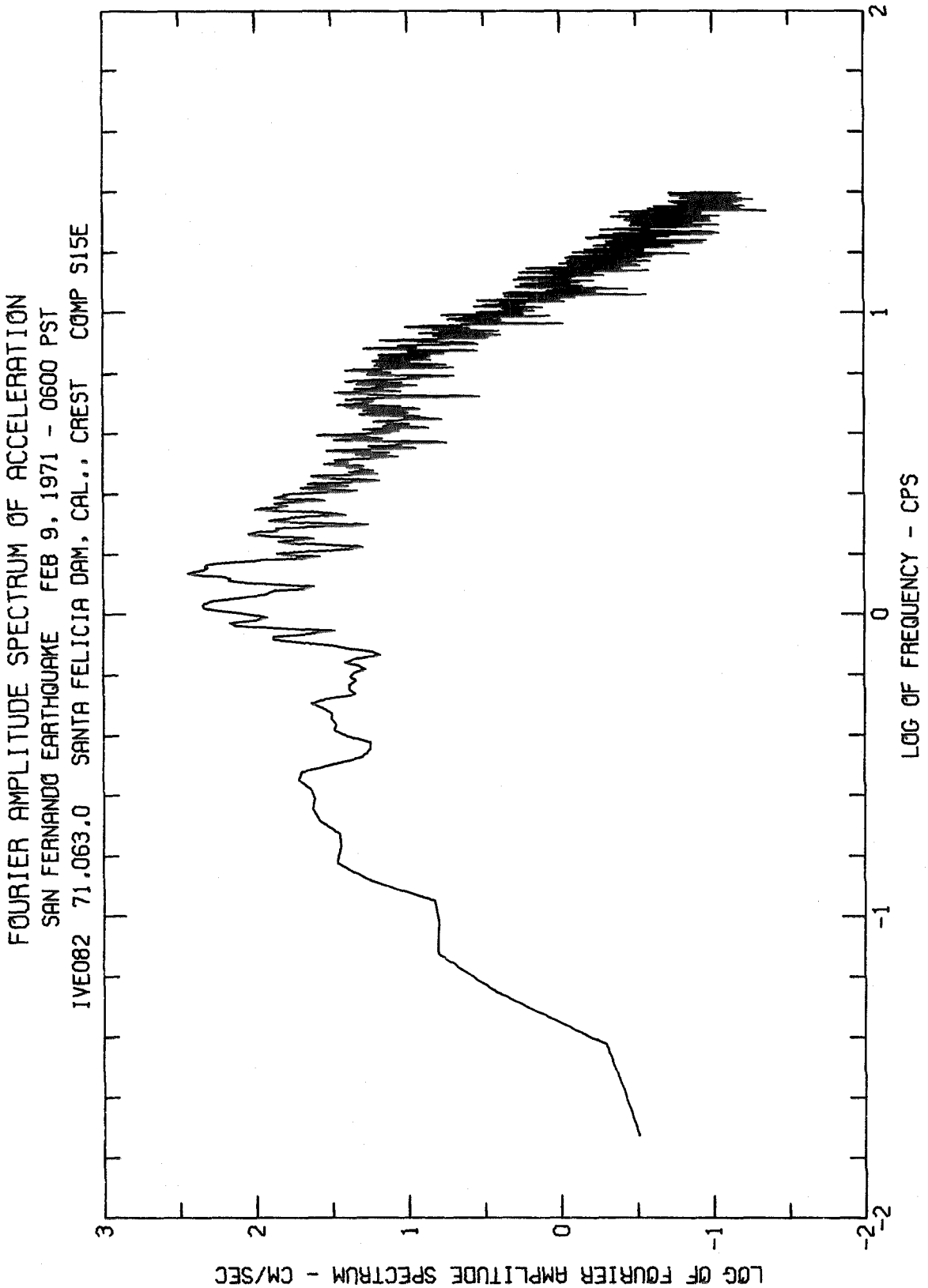
1
2


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE082 71.063.0 SANTA FELICIA DAM, CAL., CREST COMP S15E
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
100
200
300
5
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE082 71.063.0 SANTA FELICIA DAM, CAL., CREST COMP S15E
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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1
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-1
-2
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-1
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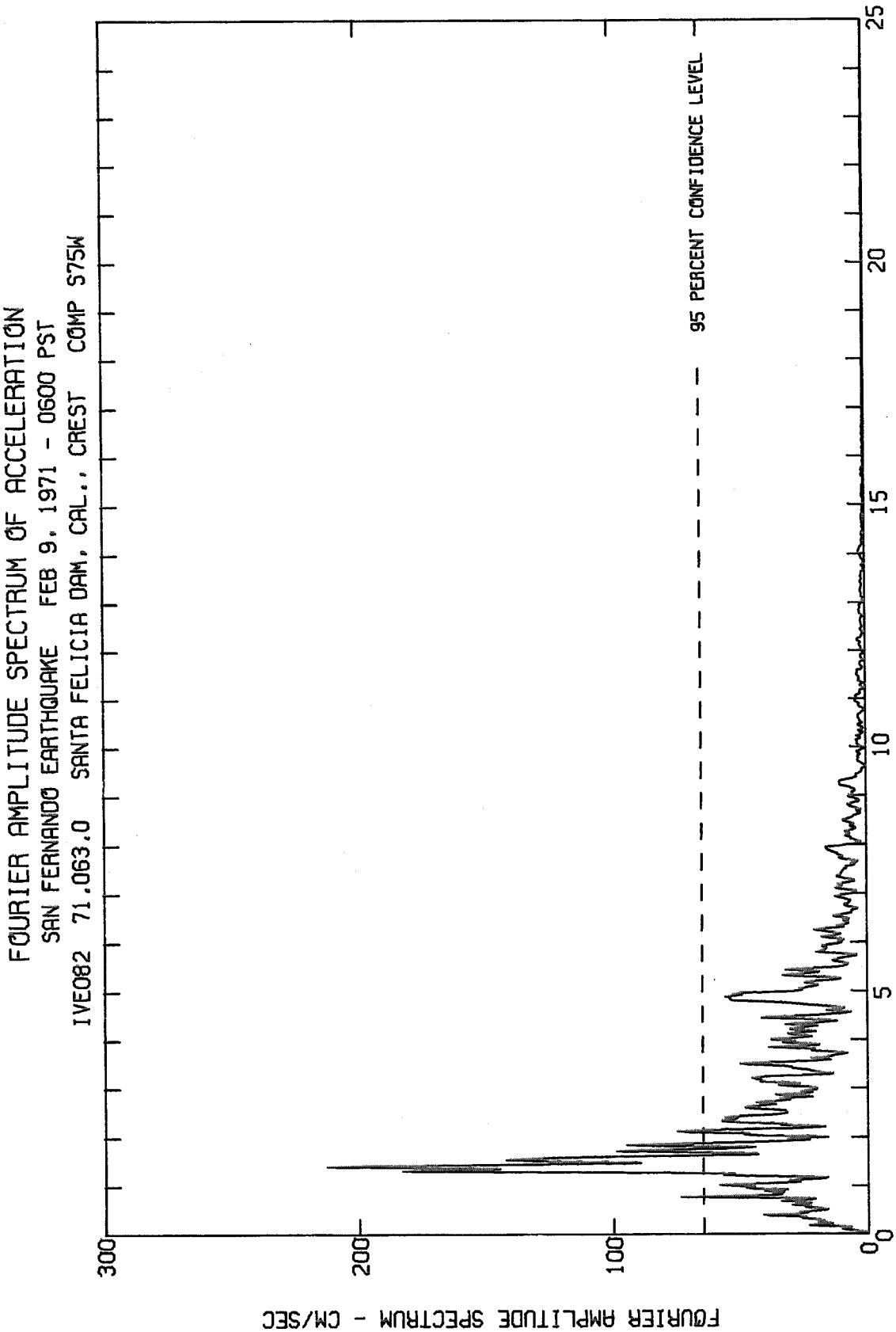
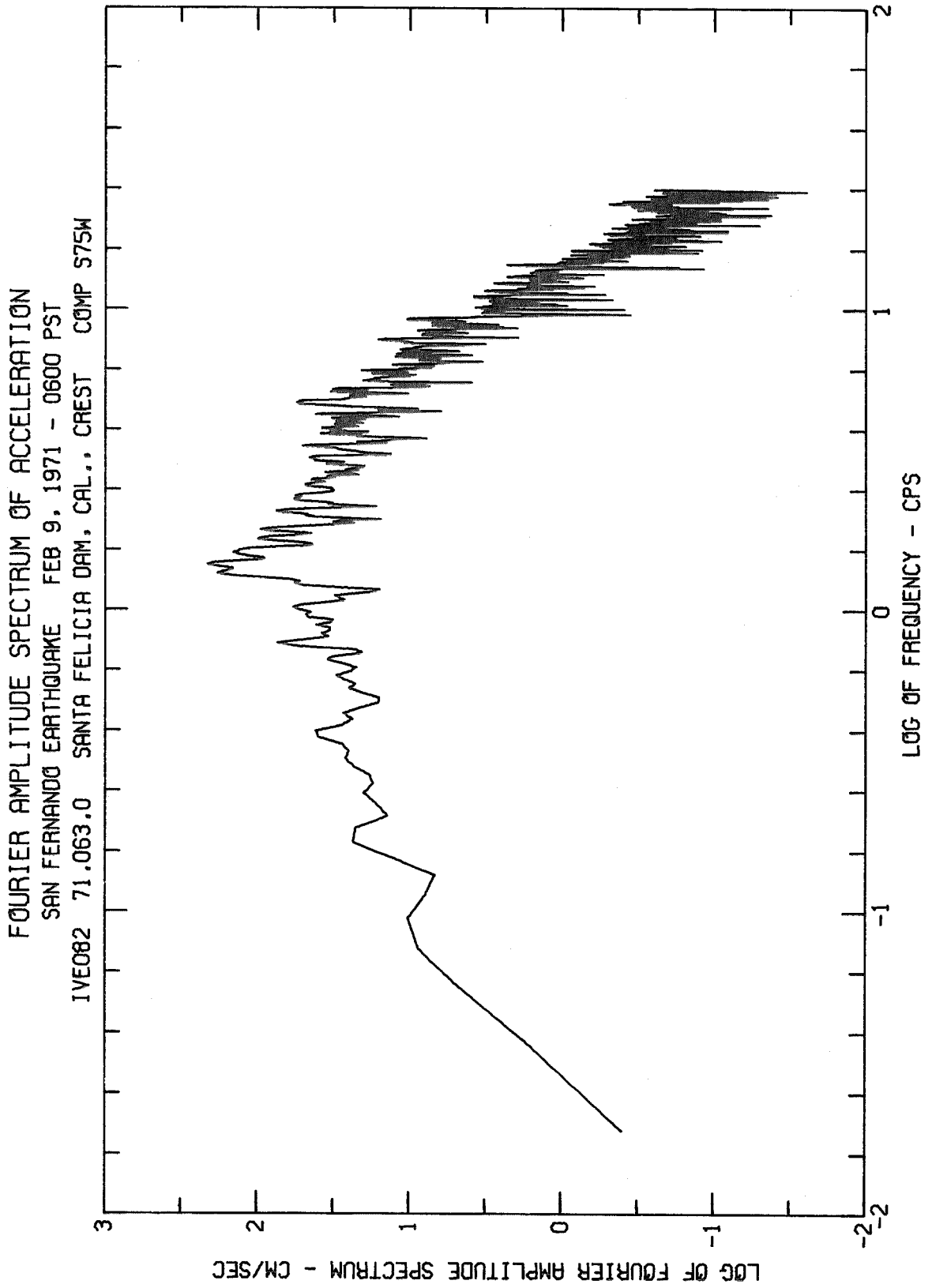
1
2


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE082 71.063.0 SANTA FELICIA DAM, CAL., CREST COMP S75W
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
100
200
300
5
10
15
20
25


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
IVE082 71.063.0 SANTA FELICIA DAM, CAL., CREST COMP S75W
LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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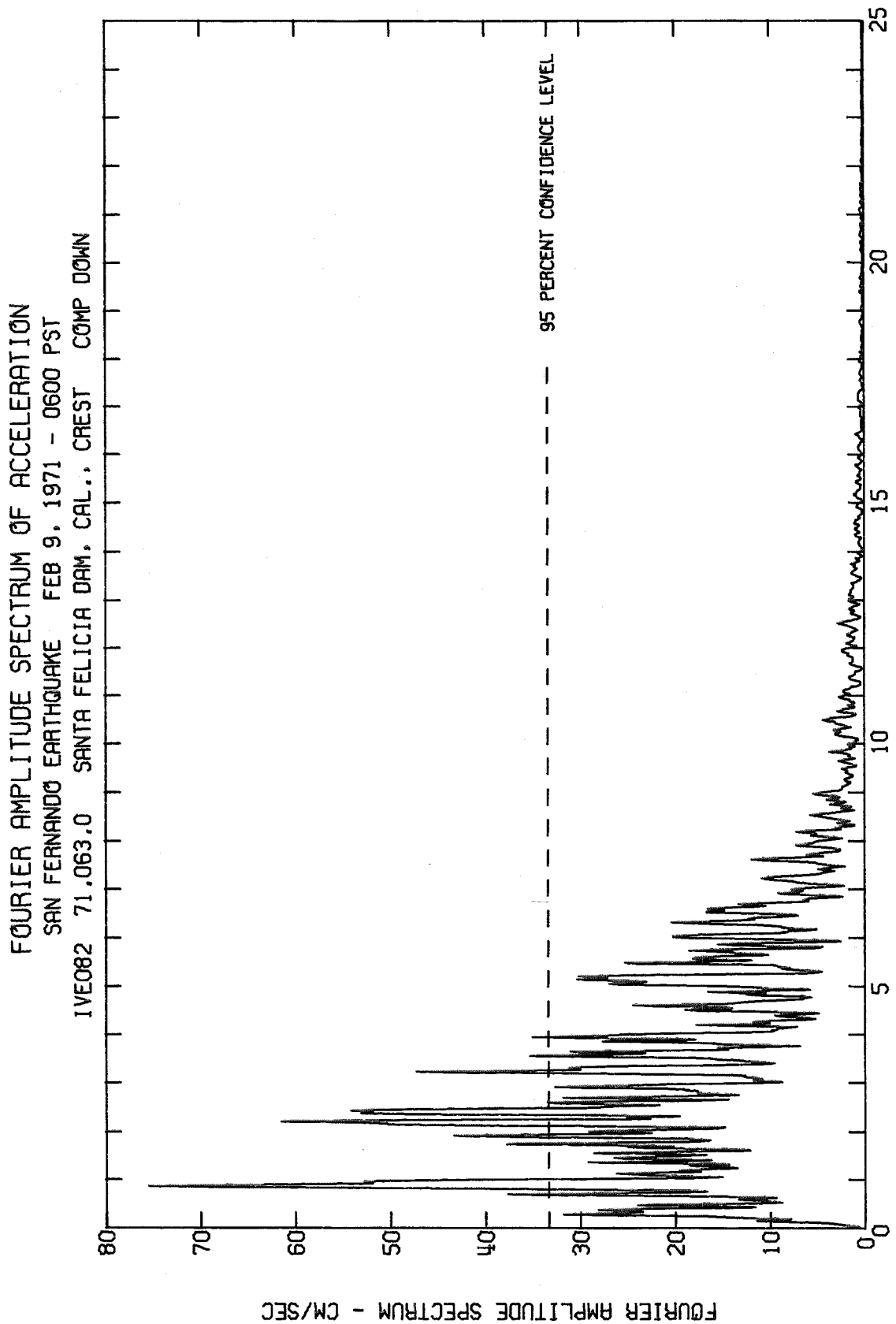
2
1
0
-1
-2
2
1
0
-1
-2


FOURIER AMPLITUDE SPECTRUM OF ACCELERATION
SAN FERNANDO EARTHQUAKE FEB 9, 1971 - 0600 PST
1VE082 71.063.0 SANTA FELICIA DAM, CAL., CREST COMP DOWN
95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
0
5
10
15
20
25
10
20
30
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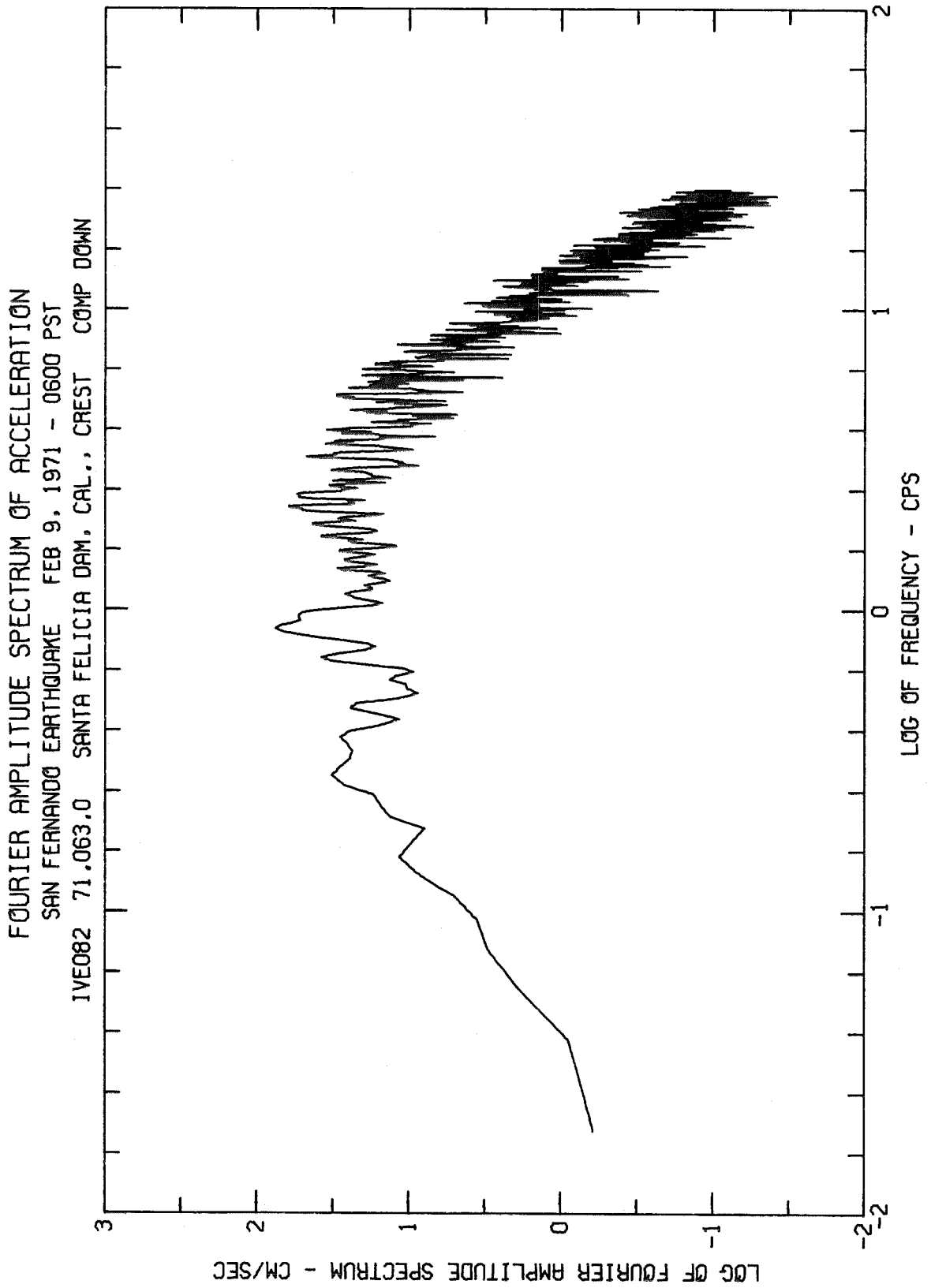
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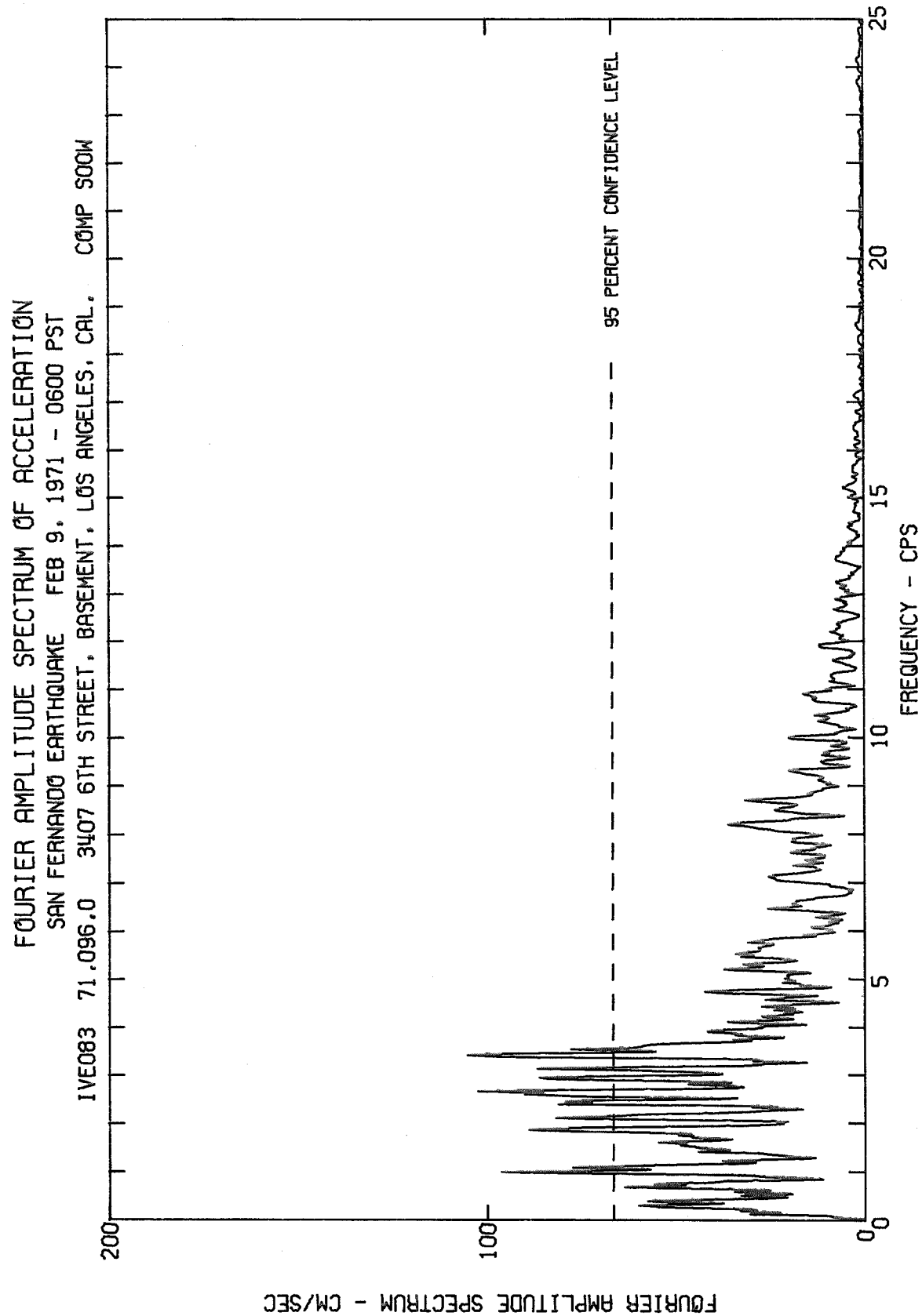
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95 PERCENT CONFIDENCE LEVEL
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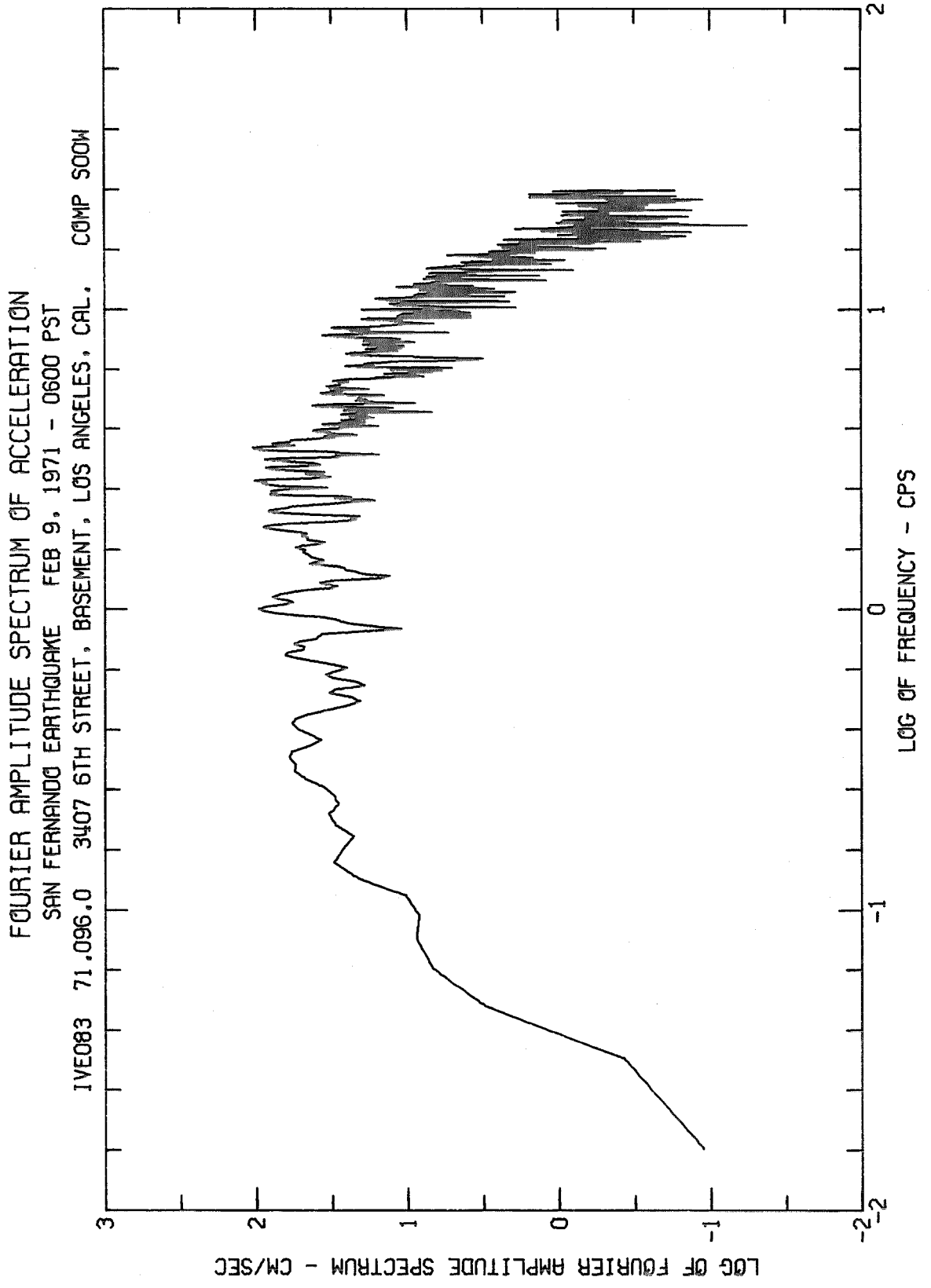
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
LOG OF FREQUENCY - CPS
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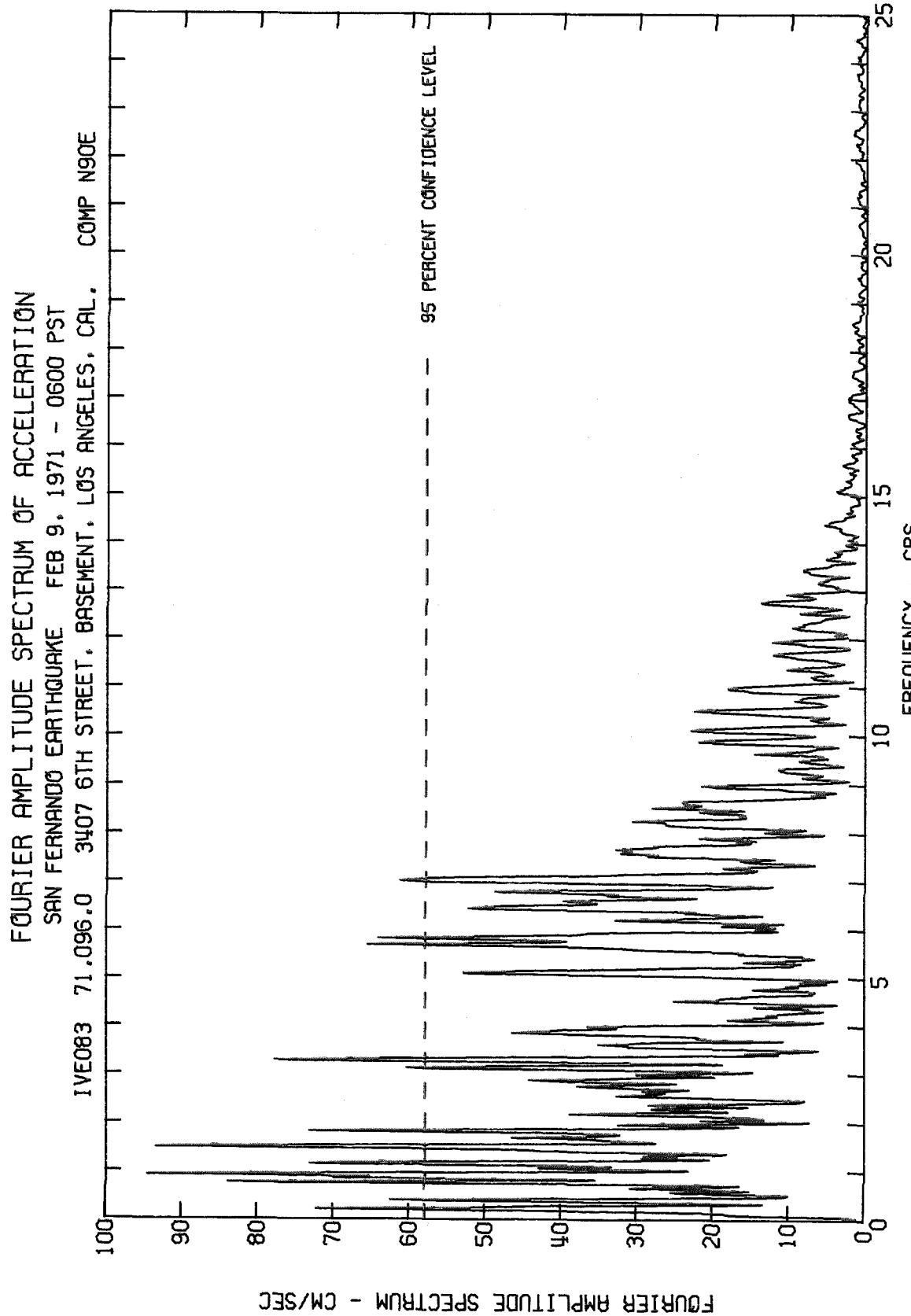
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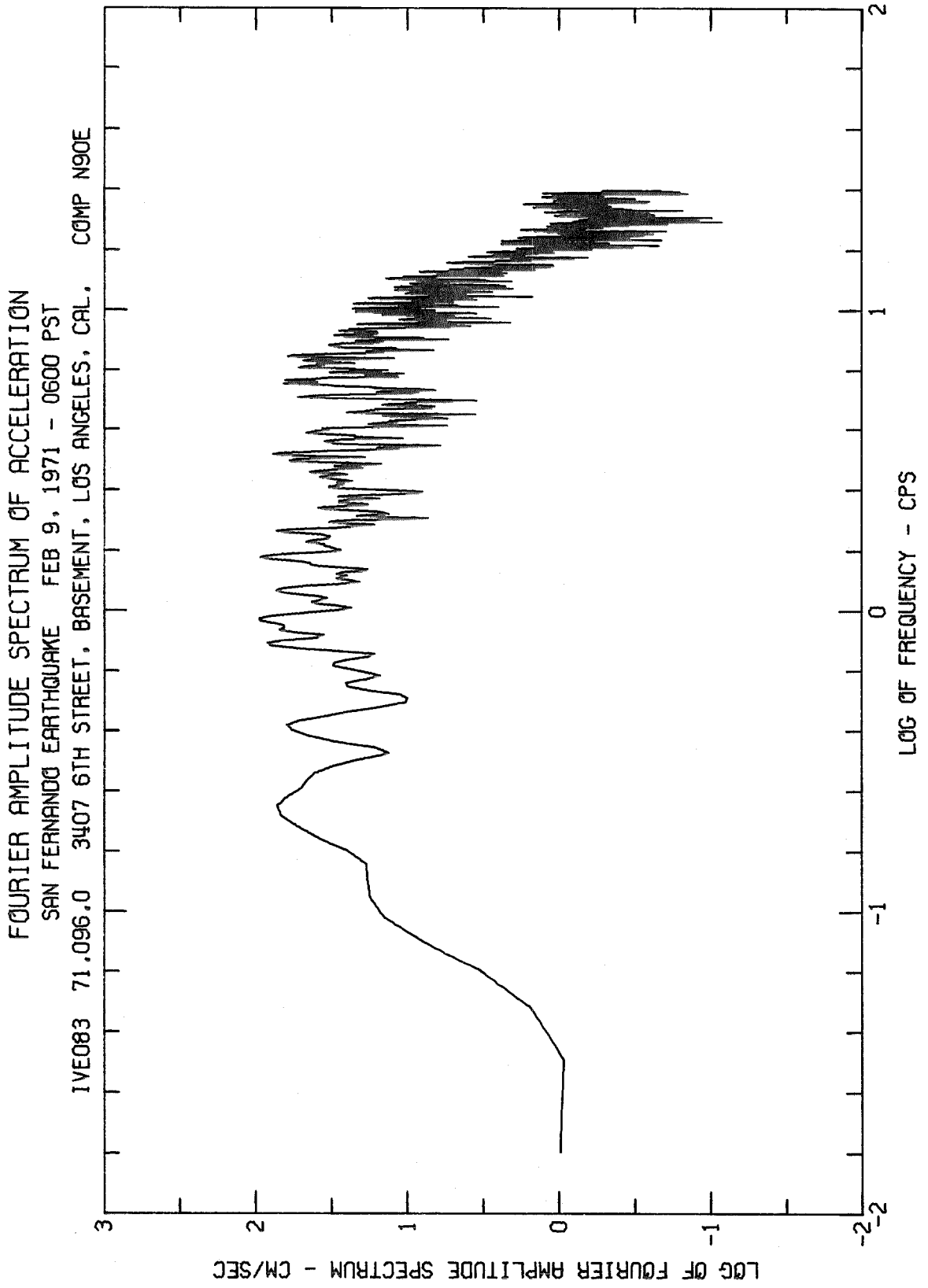
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
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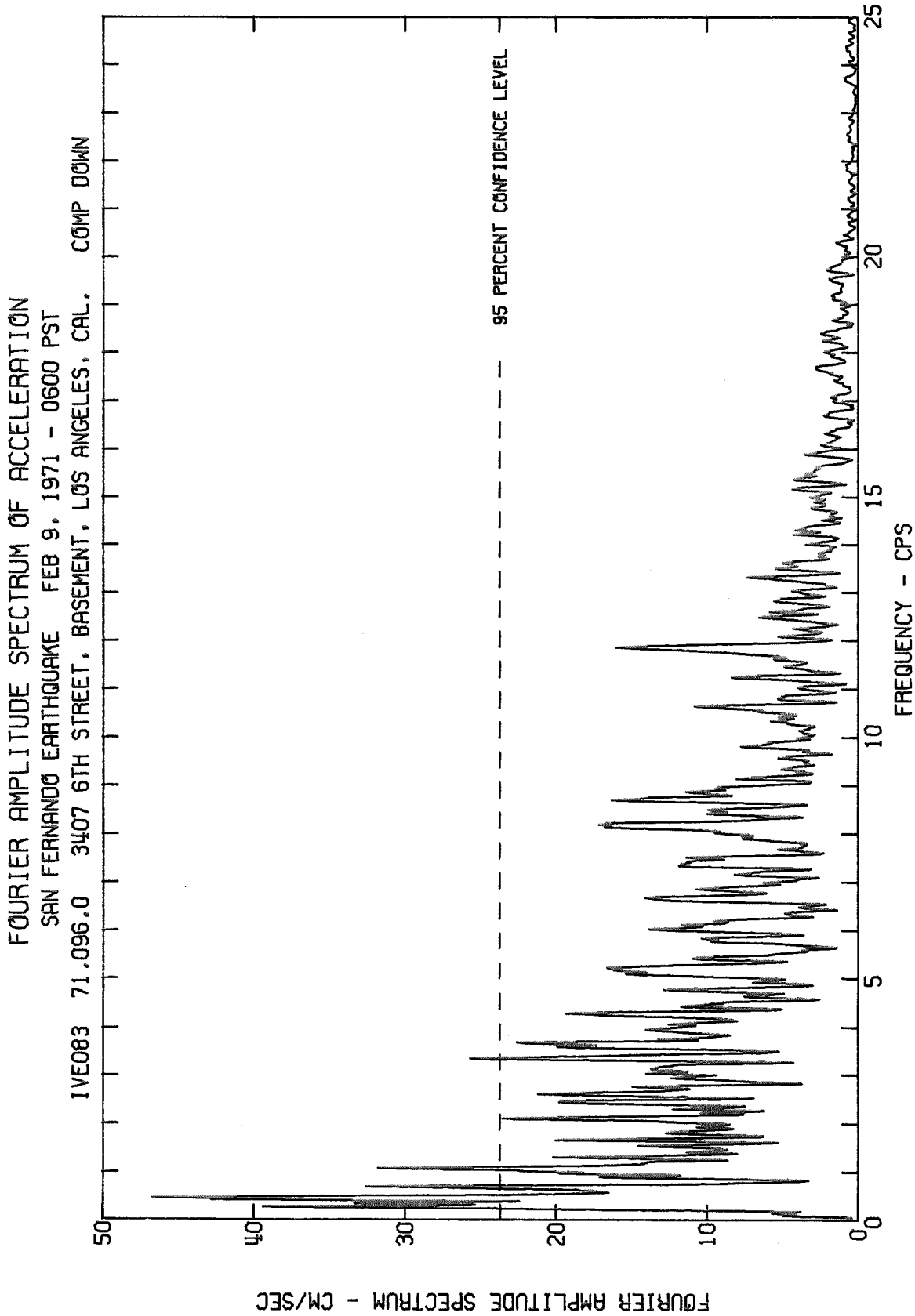
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95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
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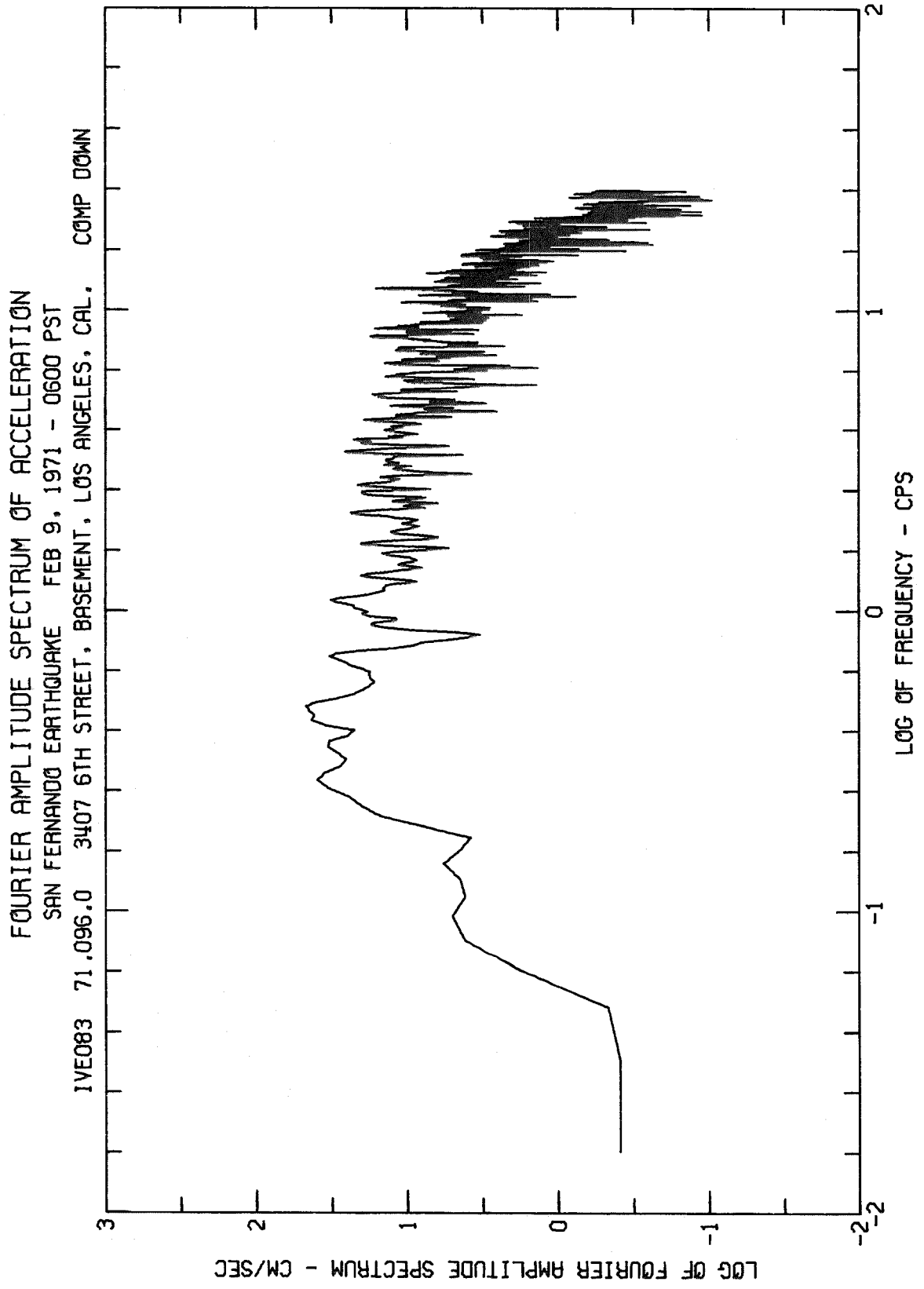
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
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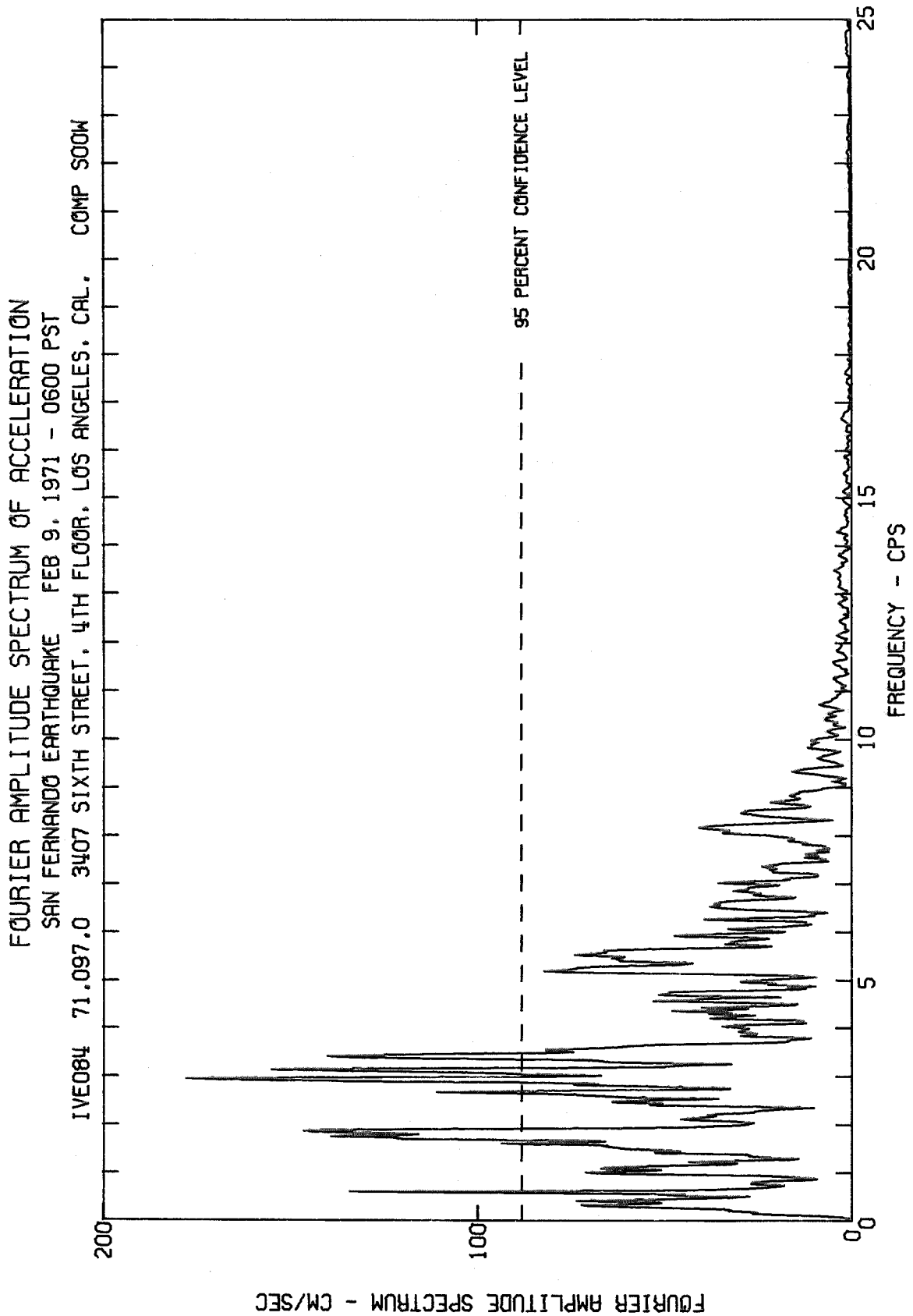
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95 PERCENT CONFIDENCE LEVEL
FOURIER AMPLITUDE SPECTRUM - CM/SEC
FREQUENCY - CPS
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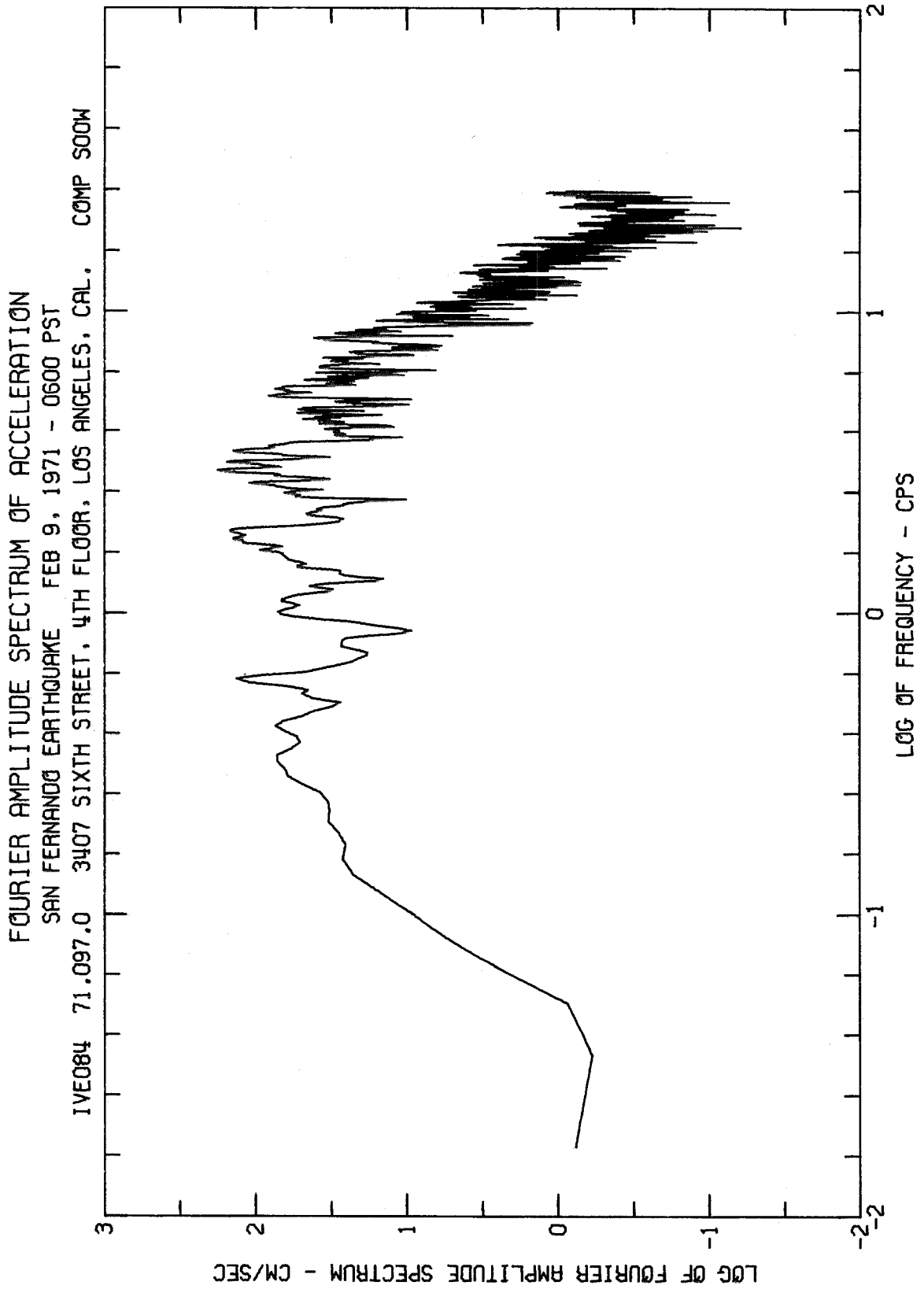
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
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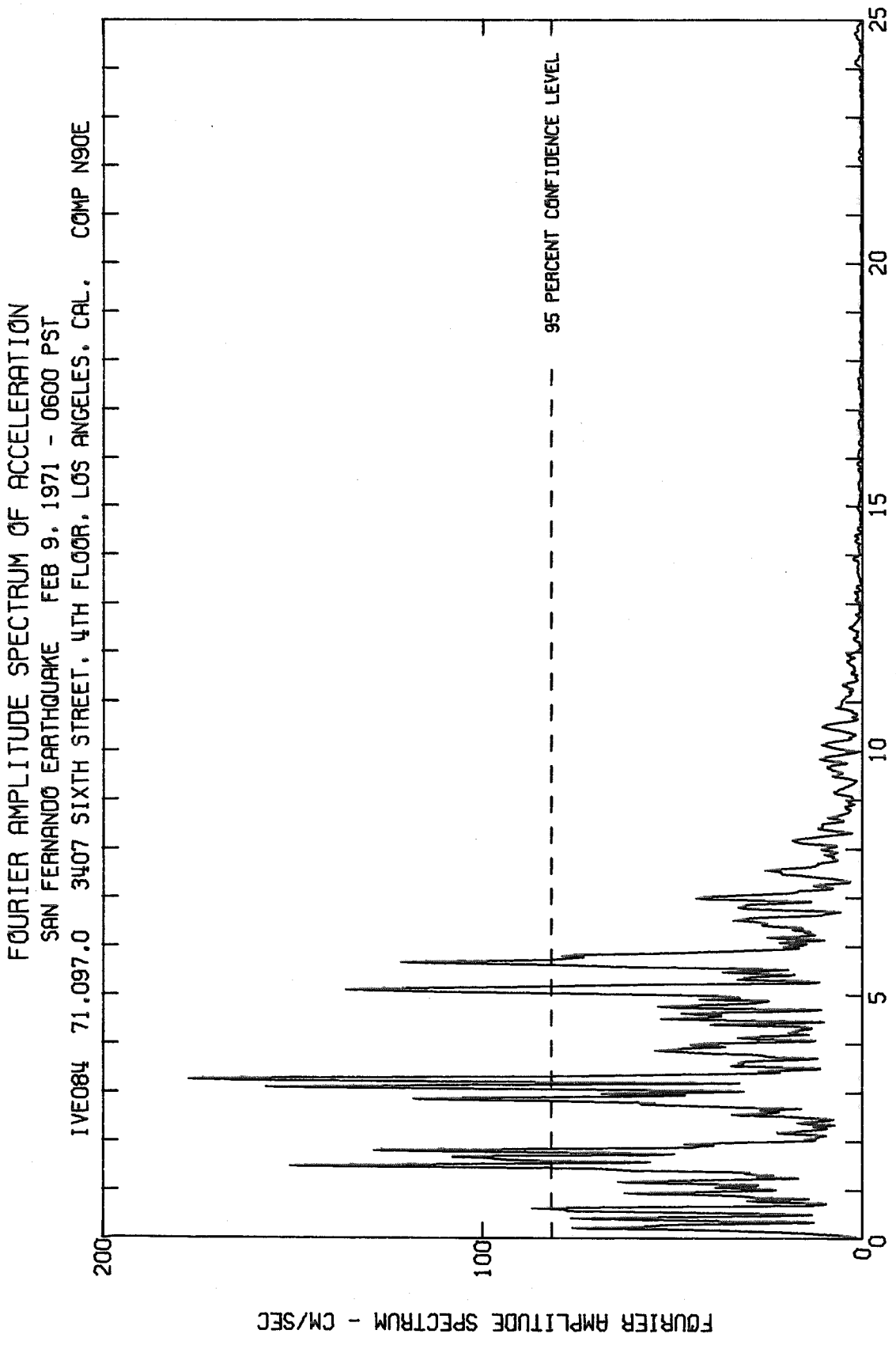
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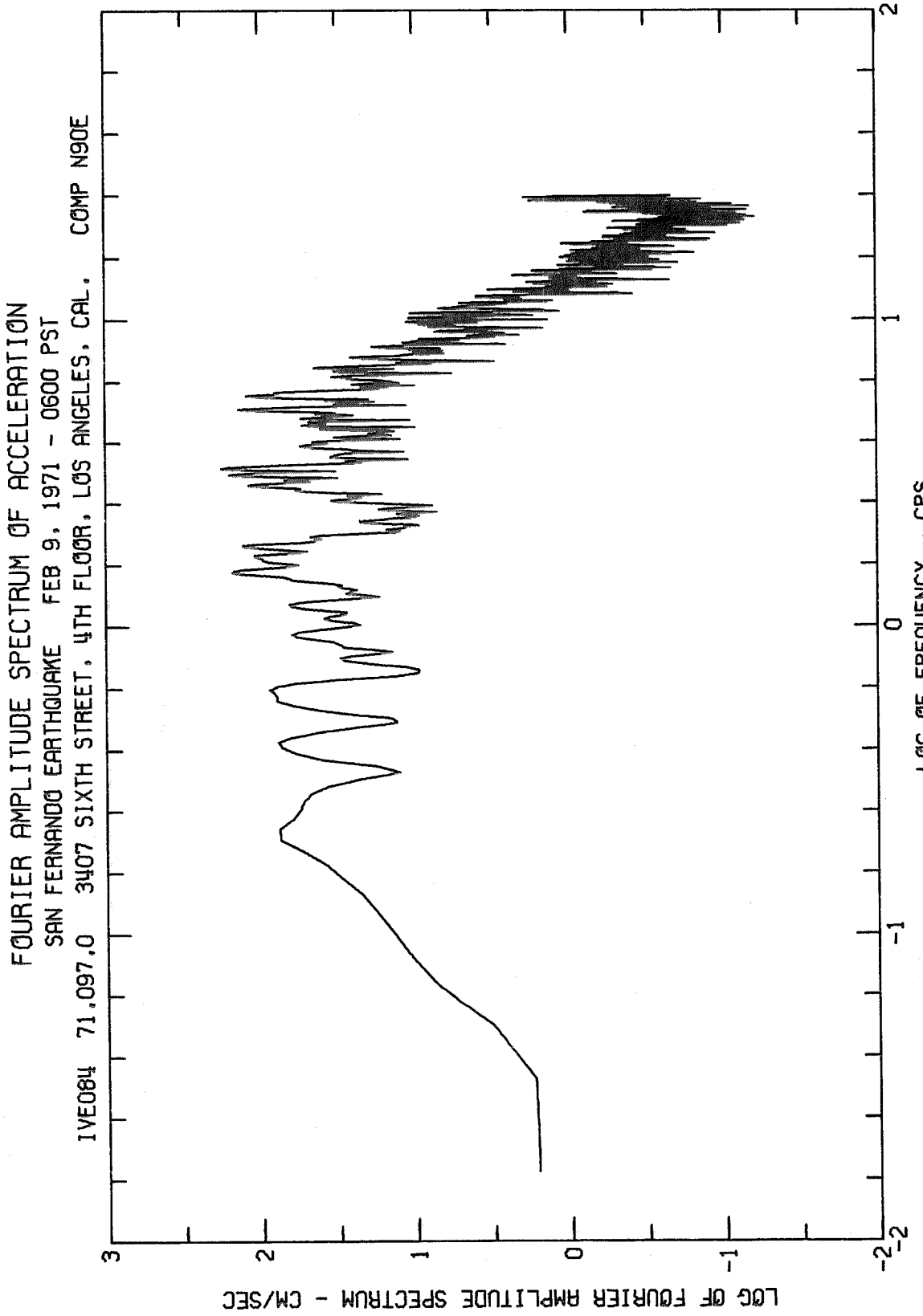
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
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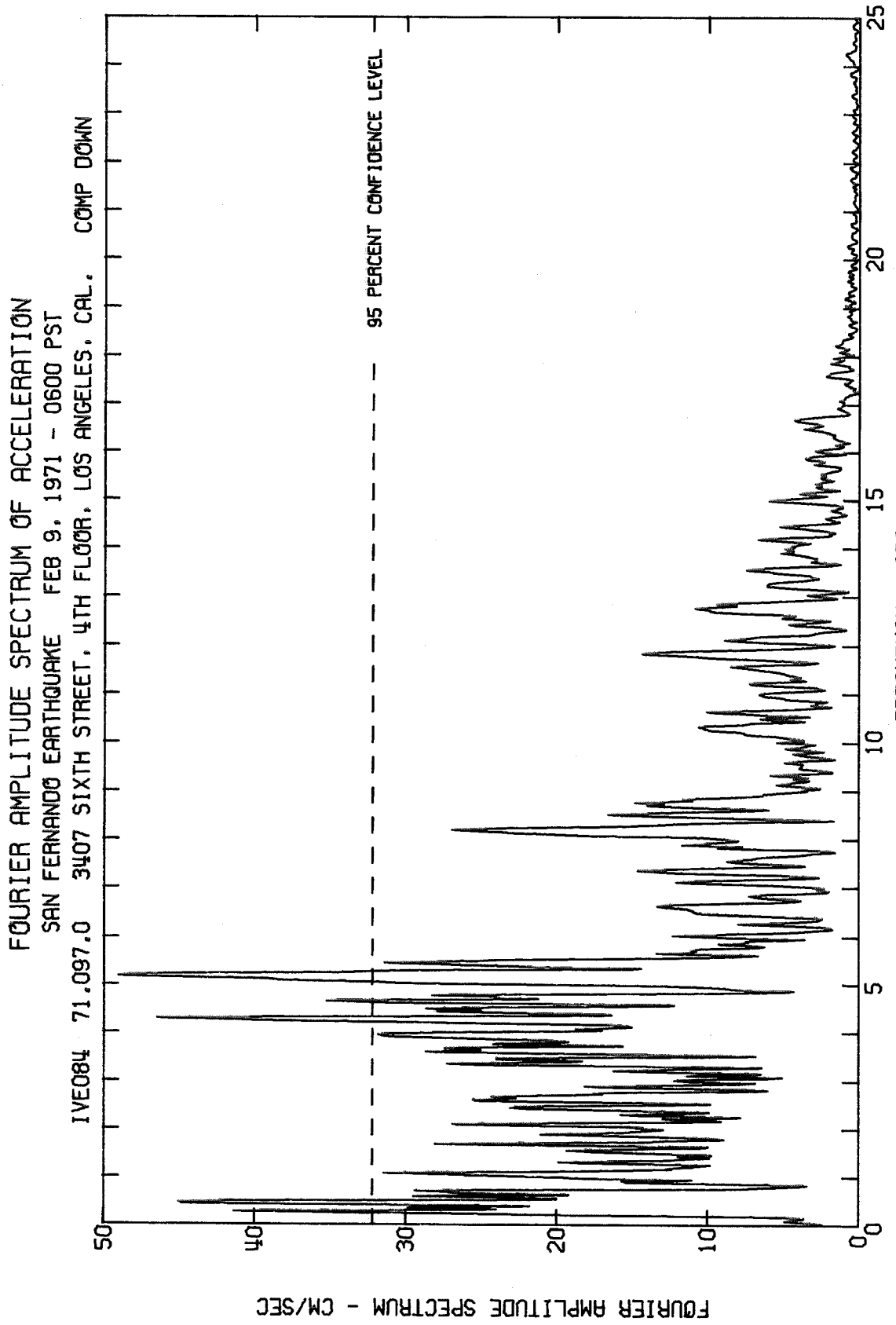
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FOURIER AMPLITUDE SPECTRUM - CM/SEC
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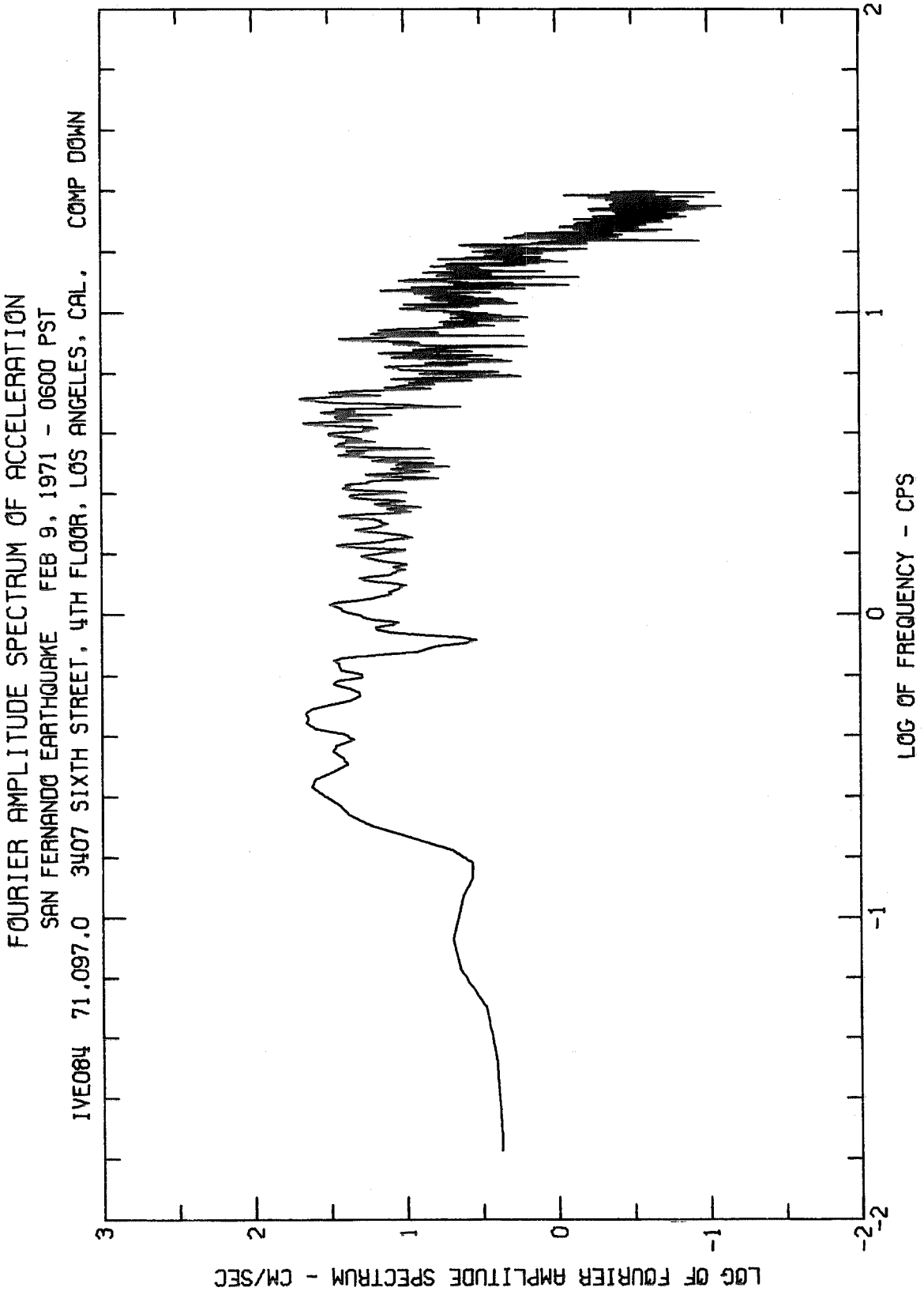
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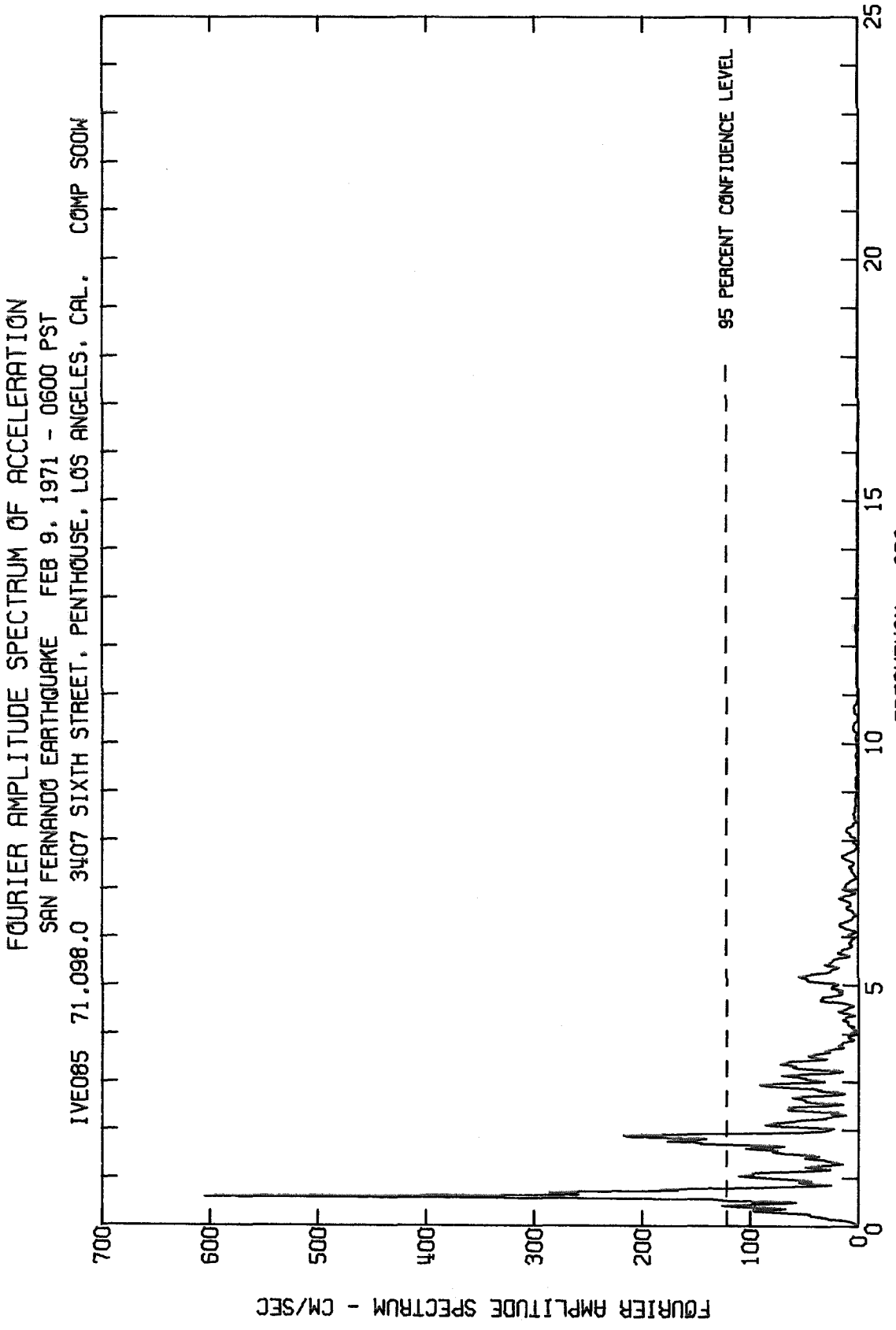
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FOURIER AMPLITUDE SPECTRUM - CM/SEC
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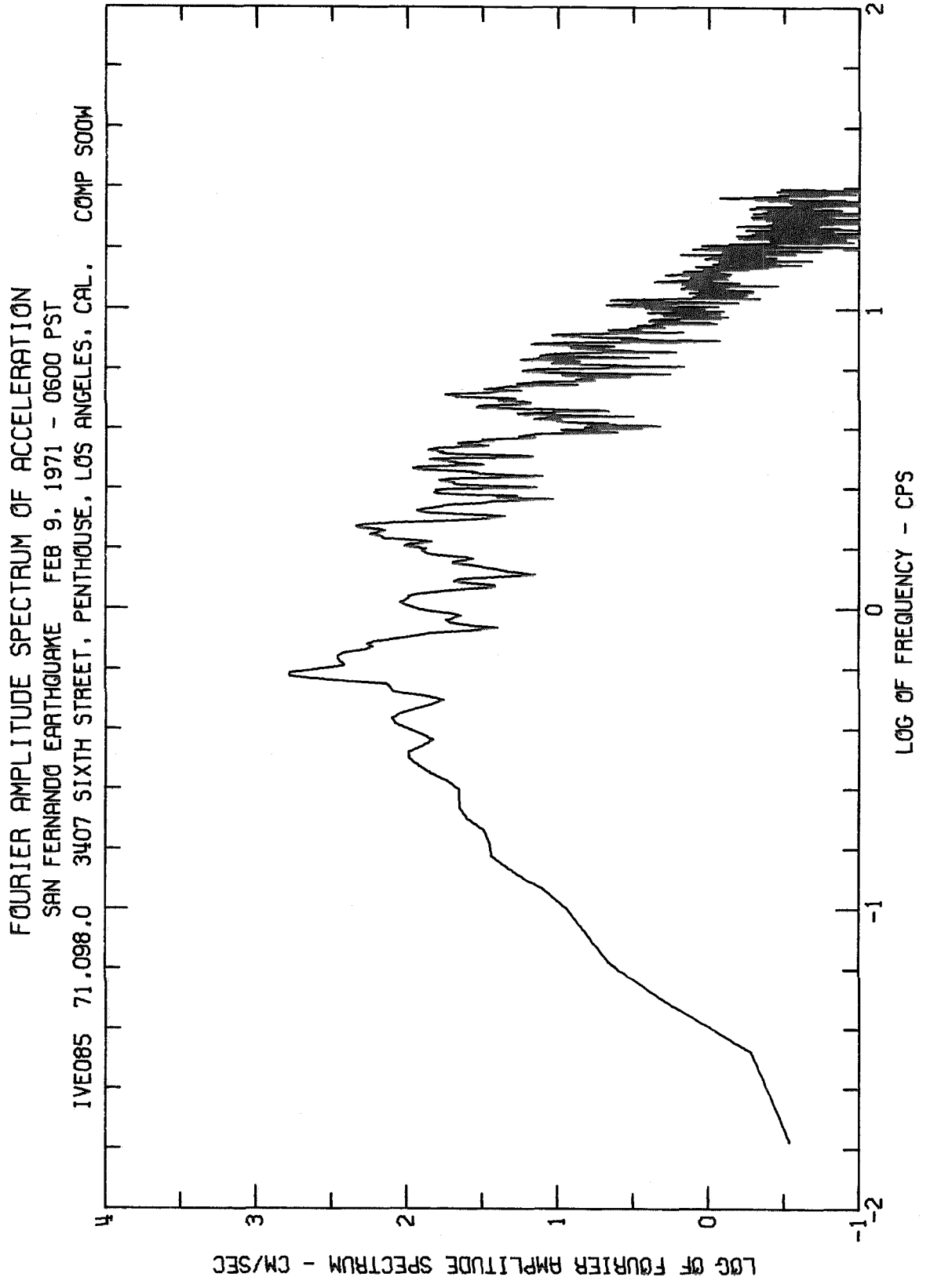
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
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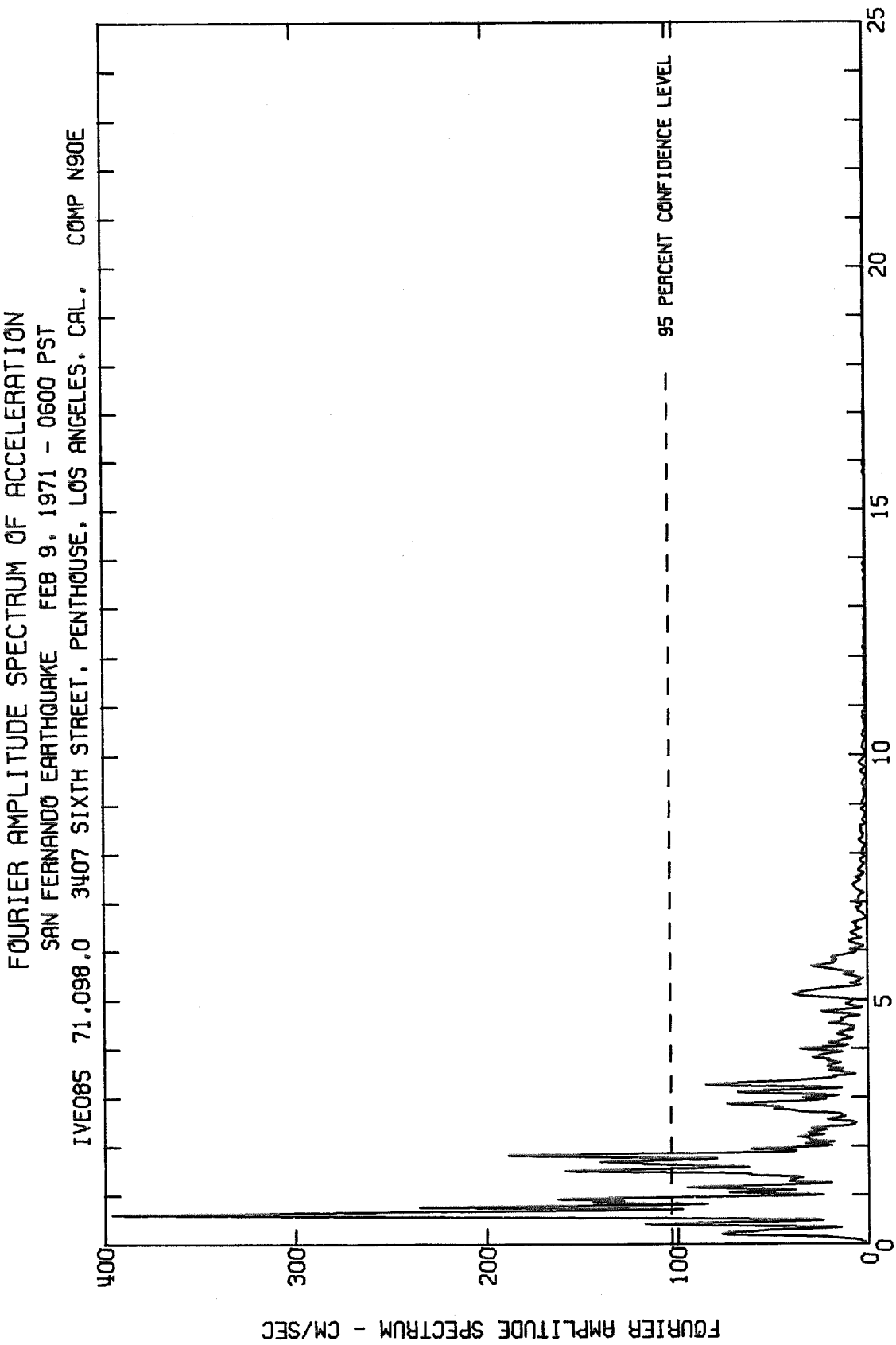
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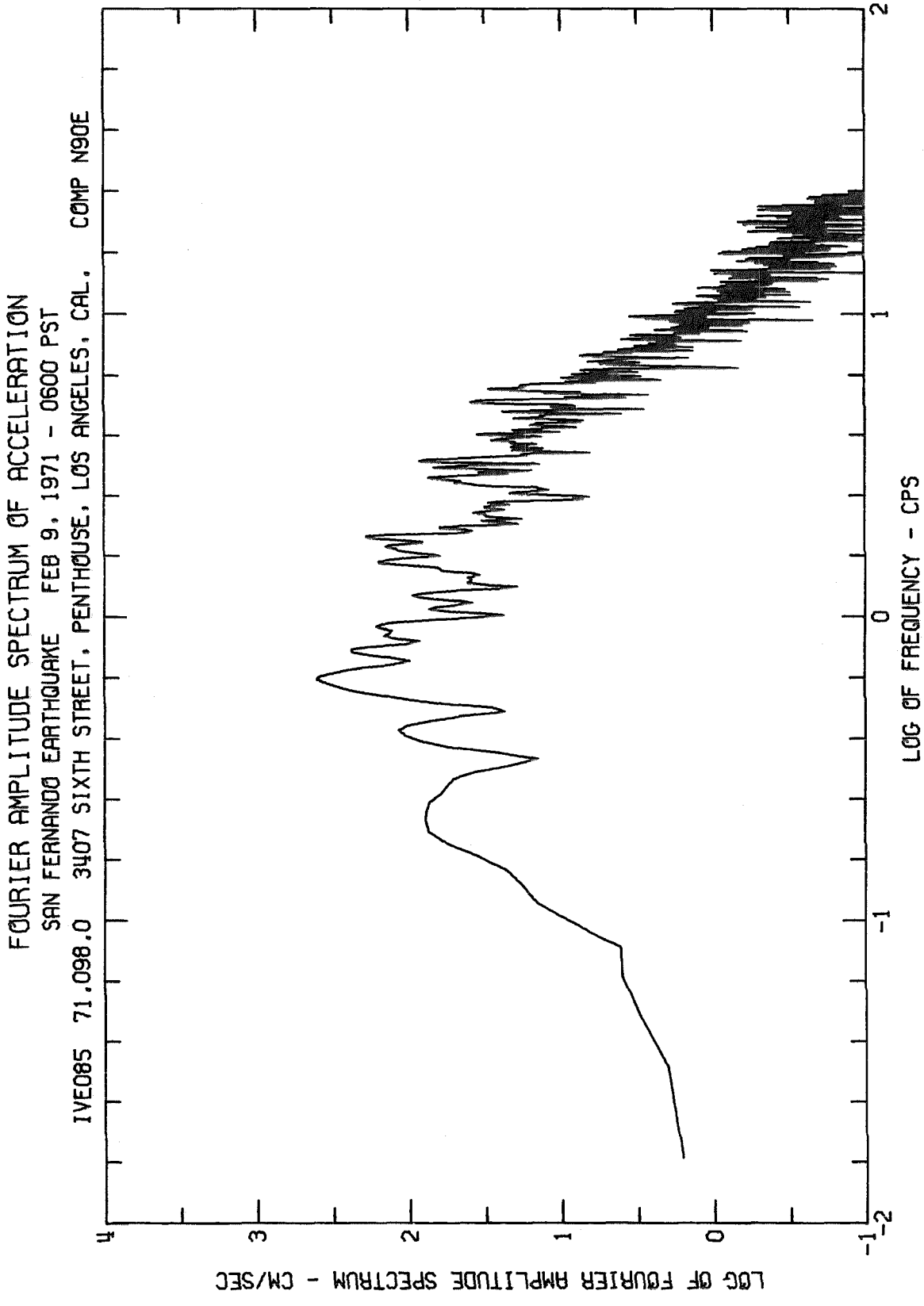
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LOG OF FOURIER AMPLITUDE SPECTRUM - CM/SEC
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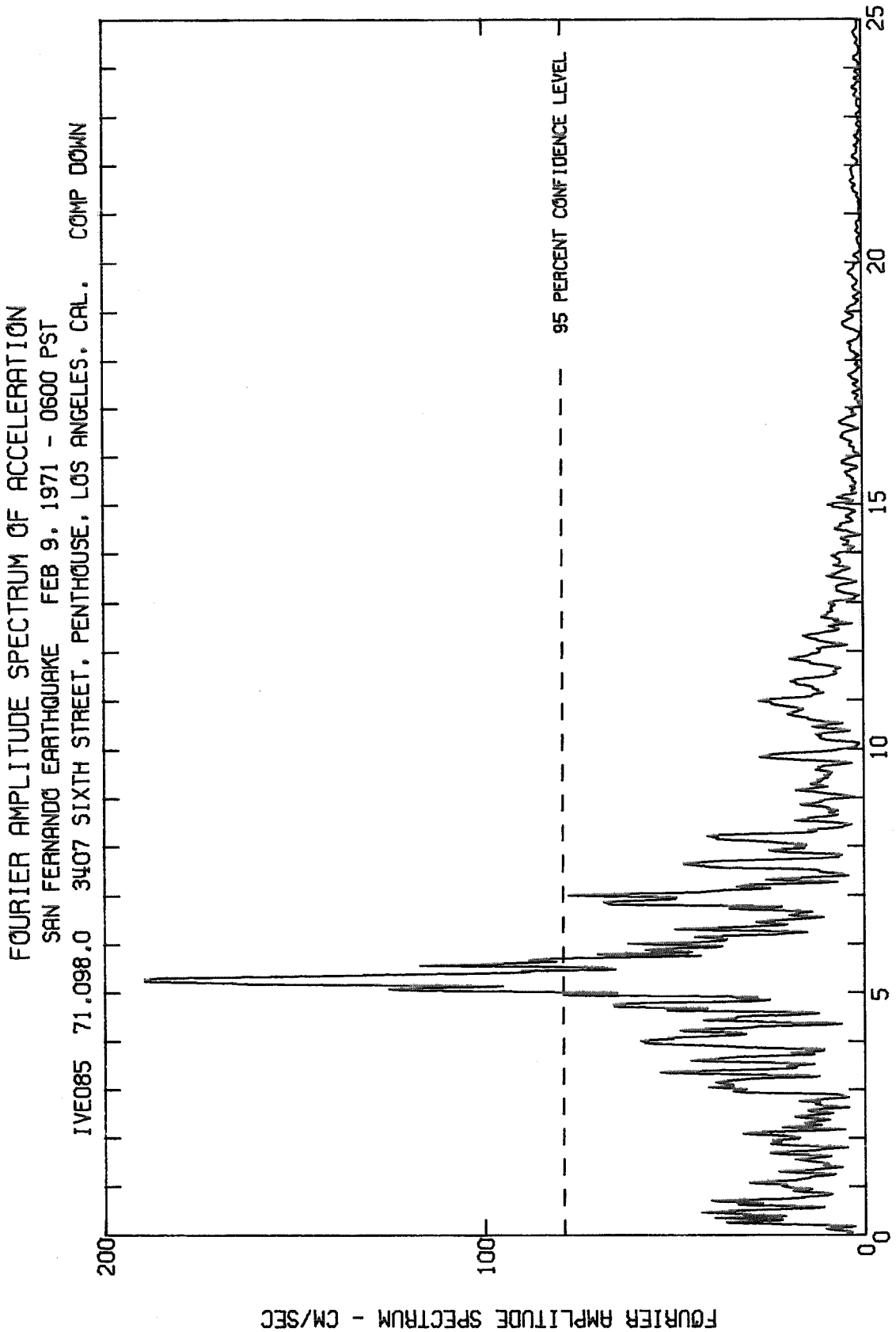
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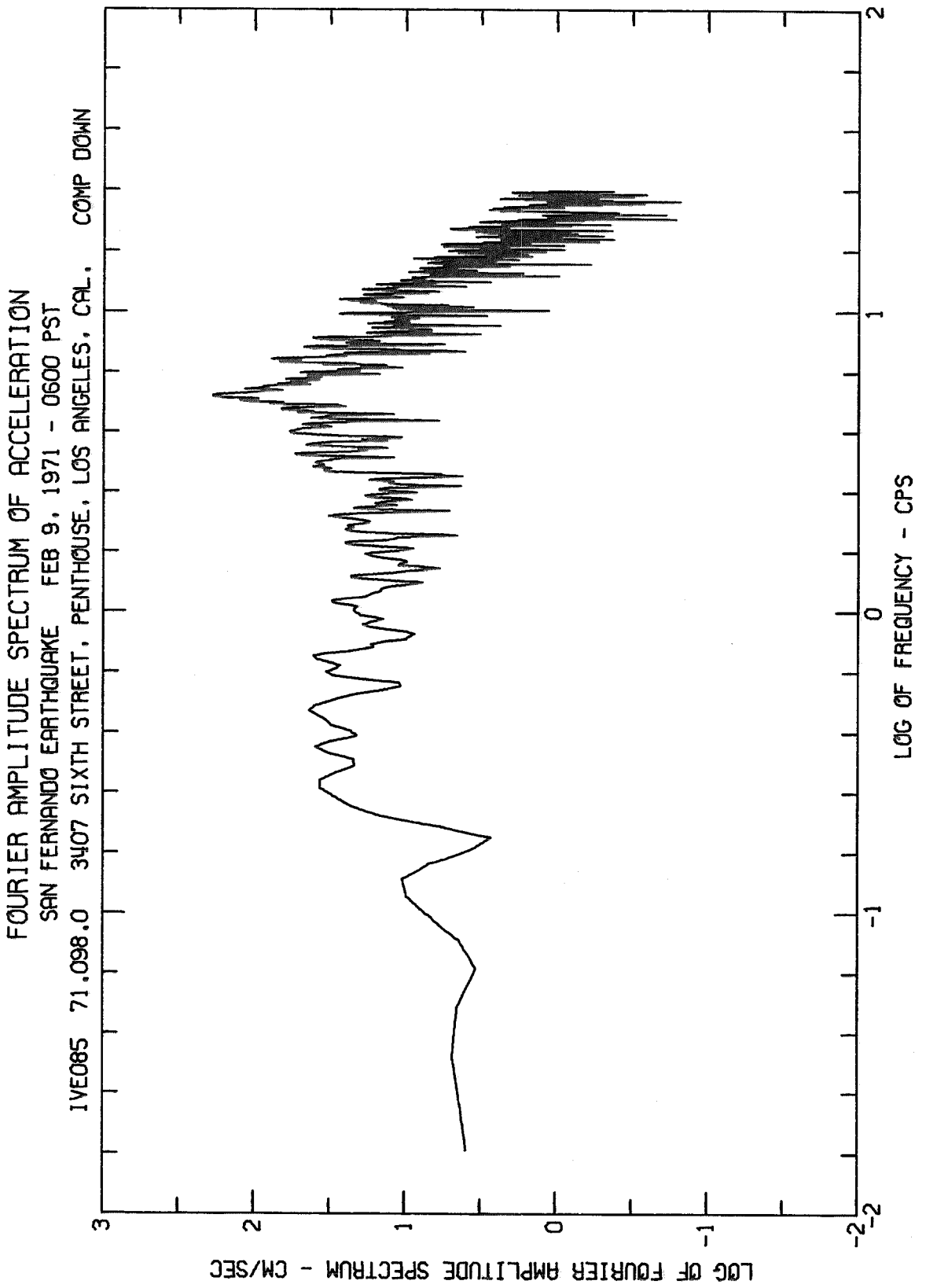
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California Institute of Technology

Earthquake Engineering Research Laboratory

The following reports of the Earthquake Engineering Research Laboratory from 1970 on can be obtained from the National Technical Information Service, Springfield, Virginia 22151:

EERL 70-20	Strong-Motion Earthquake Accelerograms - Digitized and Plotted Data	(Vol. I, Part A)	PB-187 847
EERL 70-21	" "	(Vol. I, Part B)	PB-196 823
EERL 71-20	" "	(Vol. I, Part C)	PB-204 364
EERL 71-21	" "	(Vol. I, Part D)	PB-208 529
EERL 71-22	" "	(Vol. I, Part E)	PB-209 749
EERL 71-23	" "	(Vol. I, Part F)	PB-210 619
EERL 72-20	" "	(Vol. I, Part G)	PB-211 357
EERL 72-21	" "	(Vol. I, Part H)	PB-211 781
EERL 72-22	" "	(Vol. I, Part I)	PB-213 422
EERL 72-23	" "	(Vol. I, Part J)	PB-213 423
EERL 72-24	" "	(Vol. I, Part K)	PB-213 424
EERL 72-25	" "	(Vol. I, Part L)	PB-215 639
EERL 72-26	" "	(Vol. I, Part M)	PB-220 554
EERL 72-27	" "	(Vol. I, Part N)	PB-223 023
EERL 73-20	" "	(Vol. I, Part O)	PB-222 417
EERL 71-50	Strong-Motion Earthquake Accelerograms - Digitized and Plotted Data: Corrected Accelerograms and Integrated Ground Velocity and Displacement Curves	(Vol. II, Part A)	PB-208 283
EERL 72-50	" "	(Vol. II, Part B)	PB-220 161
EERL 72-51	" "	(Vol. II, Part C)	PB-220 162
EERL 72-52	" "	(Vol. II, Part D)	PB-220 836
EERL 73-50	" "	(Vol. II, Part E)	PB-223 024
EERL 72-80	Analyses of Strong Motion Earthquake Accelerograms - Response Spectra	(Vol. III, Part A)	PB-212 602
EERL 73-80	" "	(Vol. III, Part B)	PB-221 256
EERL 73-81	" "	(Vol. III, Part C)	PB-223 025
EERL 72-100	Analyses of Strong Motion Earthquake Accelerograms - Fourier Amplitude Spectra	(Vol. IV, Part A)	PB-212 603
EERL 73-100	" "	(Vol. IV, Part B)	PB-220 837

Joint Report:	Strong-Motion Instrumental Data on the San Fernando Earthquake of February 9, 1971	PB-204 198
EERL 71-01	P. C. Jennings et al, Forced Vibration of a 22-Story Steel Frame Building	PB-205 161
EERL 71-02	P. C. Jennings, ed., Engineering Features of the San Fernando Earthquake	PB-202 550
EERL 71-03	Randolph A. Adu, Response and Failure of Structures under Stationary Random Excitation	PB-205 304
EERL 71-04	Jacobo Bielak, Earthquake Response of Building-Foundation Systems	PB-205 305
EERL 71-05	M. D. Trifunac, F. E. Udwadia, A. G. Brady, High Frequency Errors and Instrument Corrections of Strong-Motion Accelerograms	PB-205 369
EERL 71-06	Knut Sverre Skattum, Dynamic Analysis of Coupled Shear Walls and Sandwich Beams	PB-205 267
EERL 71-07	John Brent Hoerner, Modal Coupling and Earthquake Response of Tall Buildings	PB-207 635
EERL 72-01	P. C. Jennings and J. Bielak, Dynamics of Building-Soil Interaction	PB-209 666
EERL 72-02	F. E. Udwadia, Investigation of Earthquake and Microtremor Ground Motions	PB-212 853
DRC 72-01	Albert W. Whitney, On Insurance Settlements Incident to the 1906 San Francisco Fire	PB-213 256
EERL 72-04	J. H. Wood, Analysis of the Earthquake Response of a Nine-Story Steel Frame Building during the San Fernando Earthquake	PB-215 823
EERL 73-01	F. E. Udwadia and M. D. Trifunac, The Fourier Transform, Response Spectra and their Relationship Through the Statistics of Oscillator Response	PB-220 458
EERL 73-02	Research Papers Submitted to Fifth World Conference on Earthquake Engineering, Rome, Italy, 25-29 June 1973	PB-220 431
DRC 73-02	Earthquakes and Insurance, Papers presented at the Earthquake Research Affiliates Conference, 2-3 April 1973, at the California Institute of Technology	PB-223 033